MARCH 2000

FAA Aviation news

AVIATION SAFETY [illegible]M COVER TO COVER

Sun 'n Fun 2000

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FAA Aviation news

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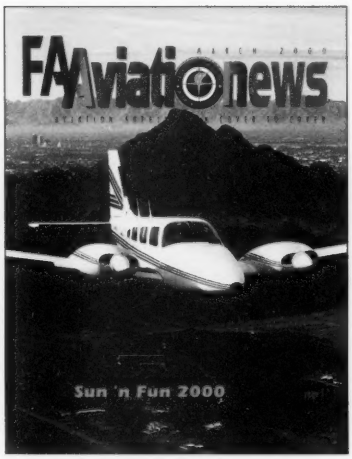


FRONT COVER:Piper Seneca II (Photo courtesy of the Piper)
BACK COVER: Europa aircraft flying in formaton (Photo courtesy of Wilksch Airmotive)

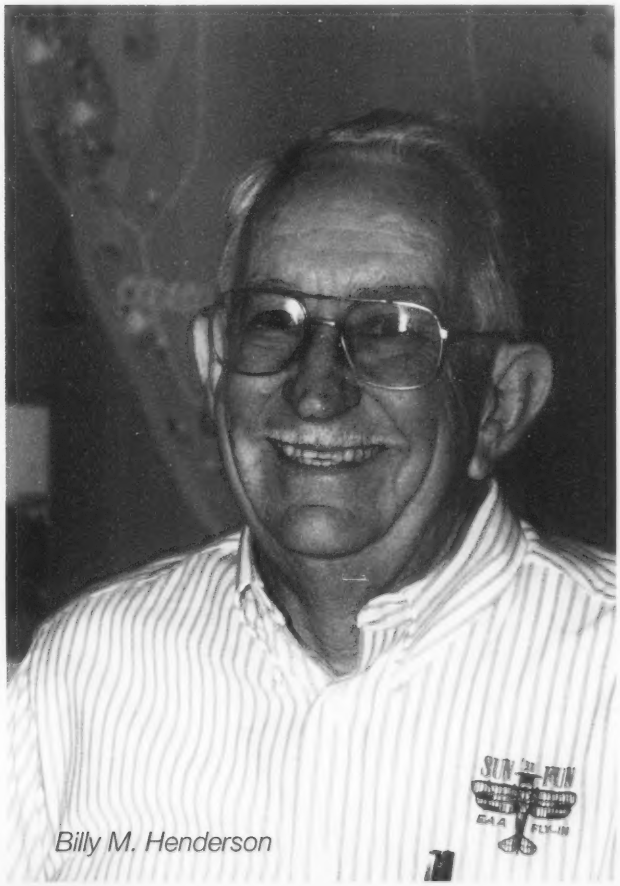
Sun 'n Fun 2000

"Flying Into Our future"

by H. Dean Chamberlain

MR. Sun 'n Fun RETIRES

December 31, 1999, not only marked the end of the century (in some people's minds), it marked the end of an important era for Sun 'n Fun EAA Fly-In Inc., in Lakeland, FL, as well. After 25 years of service, Sun 'n Fun Executive Director, and one of the founders of Sun 'n Fun, Billy M. Henderson retired on December 31. As the Executive Director of the Sun 'n Fun EAA Fly-In, Inc., and the Sun 'n Fun Aviation Foundation, he was involved in the day to day operation of both organizations. He was also a founding member of the Sun 'n Fun Aviation Foundation and International Sport Aviation Museum. During his tenure, he played a vital role in making the Sun 'n Fun EAA Fly-In what it is today. In addition to his duties at Sun 'n Fun, he was actively involved for more than 27 years as a volunteer at the Experimental Aircraft Association (EAA) Convention and Fly-In in Oshkosh, WI, where he served as a Member Emeritus of the Board of Directors and as Chairman of Homebuilders Display Area among other volunteer activities.



Billy M. Henderson

As we start our annual review of important safety tips for those flying to the second largest general aviation fly-in in the nation, only the annual EAA Convention and Fly-In in Osh-kosh, WI, is larger, we want to dedicate this year's review to Billy Henderson for helping to make Sun 'n Fun the event it is today. Billy, not Mr. Henderson, as he would tell you, will be the first to remind everyone that what made Sun 'n Fun what it is today, was not him, but the thousands of Experimental Aircraft Association (EAA) members and volunteers, the great people of the city of Lakeland and its local government for their financial and enthusiastic support in continuing to develop Lakeland's Linder Regional Airport, the FAA for its support and airport funding, and to the many aviation fans and supporters from around the world who have attended the fly-in over the years. To paraphrase a popular TV commercial, Billy, this one is for you.

Sun 'n Fun 2000

The dates for this year's week-long Sun 'n Fun EAA Fly-In extravaganza is April 9-15. This is the 26th annual fly-in at Lakeland.

If you are planning on attending this year's event, and you have not made your motel reservations, you are rapidly running out of time. If this is your first Sun 'N Fun Fly-In, it is worth knowing that many visitors make their next year's reservations before they check out of motels each year. It is easier to cancel a reservation than it is to find one a month or two before the Fly-In.

As part of your planning process, FAA has issued its annual special Air Traffic Management Plan Notice to Airmen (NOTAM) for the event. The Sun 'n Fun 2000 NOTAM provides detailed

arrival and departure procedures for aircraft flying to and in the Lakeland area from April 7 through 15. Note the special procedures start two days before Sun 'n Fun's opening day on April 9.

FAA SUN 'N FUN NOTAM, VIDEO, AND FREQUENCY CARD

In addition to the NOTAM, the FAA's Office of System Safety has produced a Sun 'n Fun 2000 VFR Flight Procedures videotape and Quick Reference Booklet for Use in Flight which highlights the procedures outlined in the NOTAM. For a copy of the NOTAM, booklet, and videotape you can call (863) 644-2431. You can also check the following Internet Web Site for information at <www.asy.faa.gov>, <www.faa.fsdo.orl>, or <www.sun-n-fun.org> for Sun 'n Fun 2000 information. All these sites will carry the special NOTAM information as soon as it is available.

Even if you have flown to Sun 'n Fun in the past, you will still need to review the 2000 NOTAM for any changes. You also need to check the list of radio frequencies for any changes.

If you have never flown to Sun 'n Fun, you especially need to get a copy of the NOTAM and study it in detail. You should also try to review a copy of the video. If you are a first time flight arrival, finding yourself number 10 in trail to enter the traffic pattern is not the time to wonder what is going to happen next. Plus you need to study the various special arrival patterns used during the event. Pilots are reminded to always fly in trail as directed. There is no side-by-side separation.

Although the arrival and departure procedures are not complicated, they do need to be understood very well. The procedures are designed to move hundreds of aircraft safely, quickly, and predictably in and out of Lakeland by having both pilots and controllers follow the same published procedures. Knowing and following the published procedures are especially important in the case of an emergency at Lakeland or one of the outlying airports. VFR traffic can expect to possibly land on what is normally a taxiway.

Another important operational procedure is the limited use of radio communications to control aircraft landing or departing Lakeland. The NOTAM outlines when pilots should communicate and when they should just monitor their radios. Strict compliance with the published communication procedures will avoid any unnecessary frequency congestion while speeding up the landing or departure process. Pilots just have to remember their aircraft type and color. While monitoring the appropriate frequency, you might hear something like this, "Blue and White *Space Cruiser*, rock your wings for identification. Now, follow the aircraft in front of you to the airport." The fact you may be number 2,000 in trail should not intimidate you. You just need to be prepared to fly in an organized gaggle of aircraft to the airport where two or three aircraft may be landing on the same runway. All of this may be done without the pilots talking to air traffic control (ATC).

Pilots need to be alert for radio, red smoke, or hand signals from red-shirted air traffic controllers located near the approach end of the runway in use for a possible wave-off signal. Landing pilots need to clear the runway as soon as possible onto a hard surface. This need to expedite traffic is why everyone needs to review the operating procedures outlined in the NOTAM.

Pilots also need to review the NOTAM section about making after touchdown cockpit signs to expedite routes to parking.

But every pilot should contact ATC immediately if there is any question of safety of flight or in case of an emergency.

Pilots should also remember some of the aircraft flying to and from Lakeland don't have radios. The NOTAM outlines the procedure for no-radio aircraft operations.

The NOTAM also has special sections for both IFR and VFR aircraft.

VFR pilots should pay particular attention to the airspace information given because of the proximity of the Tampa and Orlando Class B airspaces. Like in past years, special procedures will permit aircraft without a transponder to fly in designated areas of the Tampa and Orlando Mode C Veils. The NOTAM has the details.

WAYS TO MINIMIZE RISK OF MIDAIR COLLISION

All pilots need to pay attention to other traffic as they approach the Lakeland area. Since there is such a performance mix among the thousands of different types of aircraft flying to, through, or in the Lakeland area during this period, there is an increased chance of a mid-air collision risk. One way to reduce that risk is to fly with your landing lights and beacon or strobe lights on within 30 miles or so of Lakeland. If you are flying on an airway, you might want to extend that lights-on distance. Pilots need to be alert for traffic from any direction as they approach Lakeland. You should also monitor the appropriate ATC frequencies listed in the NOTAM when flying within the central Florida area. Everyone should use the appropriate altitude for your direction and type of flight, IFR or VFR.

Pilots should keep their heads out of the cockpit as much as possible while operating near Lakeland. The Lakeland area during Sun 'N Fun is not the place to learn how to program your new GPS super receiver. The life you save might be your own.

Pilots should expect the unexpected because some pilots will fail to read the NOTAM, some will forget what they have read, and some will simply do something dumb. The key to your flight safety is to keep your eyes open and be prepared to react to the unexpected.

ELT MONITORING EN ROUTE

Pilots flying to and from Lakeland should periodicaily monitor 121.5 MHz on their radio en route to check for any activated emergency locator transmitters (ELT) that might be reporting an aircraft accident. If you detect an ELT signal, contact the appropriate air traf-

fic control facility responsible for the area you are in with the information. Please keep a record of when and where you first heard the signal and when and where you lost the signal. It might be a false alert signal, but it could also be signaling because of a real accident.

EXTRA FUEL

Another potential problem for some aircraft is fuel exhaustion. Because of the potential delay with so many aircraft operating at Lakeland, including the risk of an accident on the field closing the airport for a while, all pilots should make sure they have enough extra fuel on board for the flight including the appropriate IFR or VFR minimums plus enough fuel for an inflight hold of at least 30 minutes or more. This is a case where the more fuel, the better. Just stay within your approved weight and balance limitations. You may want to make an intermediate landing before Lakeland just to refuel to ensure you adequate fuel on board.

In addition to allowing yourself extra fuel, VFR flights should extend their projected flight plans by 30 minutes to compensate for any unexpected delays because of traffic.

All pilots should review the flight plan filing and closing procedures in the NOTAM.

MAINTAINING SAFE FLYING SPEEDS

Because of the mix of traffic, all pilots might want to practice flying their aircraft at its minimum safe—the operative word is SAFE—airspeed, before arriving at Lakeland. Whether you do it at home on a practice flight or en route to Lakeland, you should be able to control your aircraft safely at its slowest recommended airspeed, its normally recommended cruise airspeed, and at a faster than normal cruise airspeed. The reason is you may be mixed in with other aircraft that may be flying slower or faster than you might normally fly. You may also need to be able to maintain your place in trail of other aircraft. But as the NOTAM states, if you cannot safely reduce airspeed to follow slower traffic, inform ATC and do not, we repeat do not, fly at any airspeed that jeopardizes your safety of flight.

The NOTAM explains in detail with charts and text the modified VFR arrival procedures in effect during Sun 'n Fun at Lakeland. All pilots need to review these procedures before arriving in the Lakeland general area because even IFR flights may be directed to follow the VFR procedures when the weather is VFR at the airport.

Because of the various planned flight activities at Lakeland during Sun 'n Fun and the special operating restrictions including when the airport is closed because of the daily air show, all pilots need to review the NOTAM for such items as ATIS information and possible VFR holding procedures in effect, airport operating hours, arrival altitudes, airspeeds, airport surface operating procedures, airport safety notes, parking notes, radio frequencies, and other operating procedures listed in the NOTAM. Pilots should also review what areas to avoid when arriving and departing Lakeland. Reduced arrival and departure separation standards will be in effect during Sun 'n Fun.

Pilots should also bring their own tie-down gear and anchors if at all possible. With an expected 10-12 thousand aircraft operating in and out of Lakeland airport during this period, a pilot can't be overly prepared.

It is also a good idea to carry some type of survival kit. This is especially important if you are flying through either rough terrain or from a very cold weather area. The basic survival rule of being dressed and prepared to walk home regardless of the conditions and weather is always a good one.

Sun block and rain gear should round out your "survival" items.

ELT CHECK

After landing and before securing your aircraft, all pilots in radio-equipped aircraft should do a final radio check on 121.5 MHz to check for an inadvertent emergency locator transmitter (ELT) activation. With the large number of aircraft attending Sun 'n Fun, you can imagine the difficulty in finding the source of an ELT signal or the possible number of inadvertent ELT signals.

FAA SAFETY CENTER–WEATHER TO GO

While at Sun 'n Fun, visit the FAA's Safety Center for all your aviation needs. The FAA Safety Center has Flight Service Station specialists available for your weather and flight planning needs, Flight Standards aviation safety inspectors from the Orlando FSDO to answer your piloting or airworthiness questions or to issue certain certificates, various FAA displays and exhibits as well as an ongoing schedule of FAA and industry safety presentations. Many of the presentation are given by nationally known aviation speakers. Attached is the schedule of FAA Forum presentations. The FAA Safety Center Forum area and Production Studios open daily at 8 am. For those who arrive early, the first day of Forum presentations starts on April 8, the day before Sun 'n Fun officially starts. In addition, for those who cannot attend a desired safety presentation, many of the presentations will be broadcast within the airport area by Sun 'n Fun Radio, WPEP 788 at 1610 on your AM radio dial.

Additional Information Sources

Sun 'n Fun EAA Fly-In Inc. maintains a great Internet Web site that can provide you not only the history of the event, but all of the current information you may need or want to attend the fly-in. From how to fly into Lakeland, to a distance calculator programmed to calculate your distance from your home airport to Lakeland, to finding a place to stay, the Sun 'n Fun 2000 Internet Website has something for everyone. The Sun 'n Fun Internet address is http://www.sun-n-fun.org.

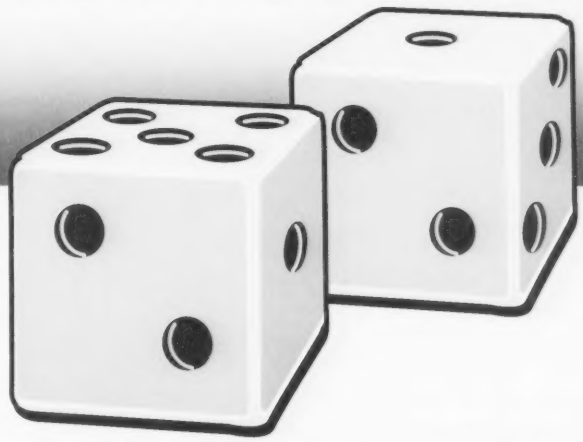
SUN 'N FUN 2000 FAA SAFETY CENTER FORUM SCHEDULE

(Subject to change without notice)

Slot	8 Sat	9 * Sun	10 Mon	11 Tue	12 Wed	13 Thu	14 Fri	15 Sat
1 830	**CAP** Aerospace Education	**AOPA** Weather Strategies	**AOPA** Single Pilot IFR	**FAA** History Repeats Itself-Don't Be History	**AOPA** More Never Again	**FAA** "A Personal Matter" Analysis of GA Fatal Accidents	**NAFI** Flight Instructor Professionalism	**FAA** Human Factors
2 1000	**FAA** Mountain Flying	**Machado** Aviation Humor	**Machado** Hangar Flying	**Machado** Defensive Flying	**FAA** Flight Instructor Special Emphasis	**FAA** Accessing & Using Safety Data	**FAA** Runway Safety Program	**FAA** Internet Training
3 1130	**Explore Aviation** "Sun 'n Fun Youth Programs"	**FAA** Water Survival & Equipment	Meet FAA	**FAA** "LAHSO"	**FAA** Runway Incursions	**FAA** How Do I Keep My Airplane Legal	**FAA** Battle of the (Frequency) Bands	**Explore Aviation** "Sun 'n Fun Youth Programs"
4 1300	**FAA** Weather-Briefings What, Why, & What's Next?	**KING** How to Avoid Unwanted Adventure and Still Have Fun	**KING** How to Avoid Unwanted Adventure and Still Have Fun	**AOPA** Operations at Towered Airports	**AOPA** Single Pilot IFR	**FAA** Aeronautical Decision Making (General Aviation vs Airline)	**FAA** FSDO Manager	**Finale**
5 1430	**FAFI** Aviation Misconceptions & The Gray Areas	**AOPA** Weather Tactics	**FAA** Aviation Medicine	**AOPA** GPS for VFR Operations	**FAA** How to Keep Your Airplane Flying	**FAA** International Narcotics & Law Enforcement	**FAA** Field Approval	
6 1630	**99s** Amelia Earhart-The Rest of The Story	**Ultralight Open Forum** Host McClung	**Englehardt** Cause & Prevention of Landing Accidents	Rotax Engine	**FAA** Aviation Medicine in the Southern Region	**AOPA** GPS for VFR Operations	**Zimmer-Gailer** Refractive Eye Surgery and the Aviator	
7 1800	**SPM** (Closed Meeting)					**Sun 'n Fun Awards Ceremony**		
8 1930					**U.S. Aviation & Space Accomplishments**		**U.S. Aviation & Space Accomplishments**	
9								

Pilots: It's Your Decision

from the United Kingdom Civil Aviation Authority's General Aviation Safety Sense Leaflet 23.



1. INTRODUCTION

A Civil Aviation Authority (CAA) study examined 166 fatal accidents to United Kingdom (UK) light aircraft. That review was published as CAP 667 "Review of General Aviation Fatal Accidents 1985 - 1994," and this highlights some of the points made.

Most accidents are the result of the pilot's actions. This includes their skill level and, most important of all, the decisions that they make. This leaflet details some of the factors that can affect how the pilot's decisions do—or don't—keep the aircraft in one piece and the occupants safe.

2. TO GO OR NOT TO GO

A. Weather

Probably the single most important factor in general aviation flight safety is the decision of a pilot to begin or to continue with a flight in unsuitable weather conditions. As you might expect, weather was a major factor in fatal accidents: over 80% of Controlled Flight into Terrain (CFIT) accidents happened when the pilot either continued flying into adverse weather or did not appreciate the actual effects of the weather conditions. Of those pilots who lost control in Instrument Meteorological Conditions (IMC), only one had an Instrument Rating. Crosswind landings seldom result in fatalities, but they still feature in many accidents resulting in broken aircraft and painful injuries. Remember that weather does not stay constant, it doesn't always do what the forecast predicts, and it can deteriorate very fast. Respect the weather and the implications for flight safety. That doesn't just mean other less experienced people who can't fly so well are the ones who should respect the weather; it means you.

B. I Can't Turn Back Now!

Any competent pilot knows that weather can, and will, change enroute. If it does, it is essential that the pilot is prepared and willing to divert or turn back if conditions deteriorate. It does not reflect badly on your ability as a pilot if you turn back in poor weather. In fact, it reflects good judgement and realistic assessment of the situation. It is also important that diverting is feasible in practical terms. Have you got enough fuel, money to get home or pay for a hotel? Have you promised to be somewhere important? Never put yourself in a position where you would not feel able, and willing, to turn back if necessary. No Monday job is worth dying for on a Sunday, so carry your driving license and credit card.

The decision to turn back will be made easier if you have practiced, in advance, to fly the relevant maneuvers on instruments, for example: A 180° turn and, if necessary, climb to a higher Minimum Safe Altitude (MSA)

C. Chain of Events

In aviation accidents, it is common to find a chain of events where one shortcut, or poor judgement, leads to another. For example, the apparent "cause" of an accident may be that the pilot has attempted a landing in marginal weather conditions, has not diverted or turned back despite reducing visibility, or has descended below the Minimum Safe Altitude (MSA) to try to establish their position. Consider why they chose to do this--was it really an isolated bad judgement, or could they have been short of fuel due to poor planning and lack of contingency time?.

Remember that good planning, proper use of forecasts, awareness of terrain features en route, and relevant safety altitudes are not just good practice--they save lives.

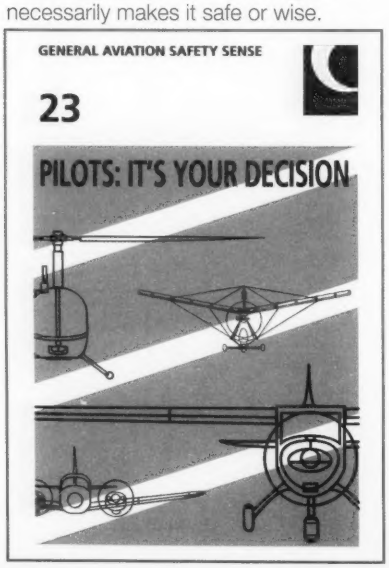
D. But I've Done it Before!

Why do some highly experienced pilots believe that they can safely fly in

marginal conditions, ignore their MSA, or attempt extreme aircraft maneuvers? One of the reasons could be that either they, or others that they know, have done it before and "got away with it." This may well be true, but it certainly does not prove that it is safe. Imagine if your son or daughter tried to convince you that it was quite safe for them to cross a busy road blindfolded, because they did it yesterday and survived? What would you say to them?

E. But I Know Someone Else Who Does it!

People vary in all kinds of ways, experience, concentration, skill, how they are feeling on a certain day, how much sleep they had, how much sleep they need, the after effects of recent illness, and their personal or domestic circumstances. The fact that someone else on a particular day can land in a marginal crosswind does not mean that you can necessarily do the same. The fact that you can do this does not mean that you should encourage someone else to do the same. Being a competent pilot means correctly assessing your own limitations on a particular occasion. It does not mean pretending that if someone can do it, then everyone can do it every time; or that if someone else is doing it, that necessarily makes it safe or wise.



F. Exercising Sound Judgement

Pilots enjoy a great deal of freedom, despite the unforgiving nature of flying. The reason for this is that the regulatory authorities place a great deal of trust in the pilot to exercise competent judgement concerning flight safety. Qualified pilots are thought to be capable of making responsible decisions about whether it is safe to fly, taking into account their experience level, aircraft type, location, personal physical and emotional state, and prevailing or expected weather conditions. There are two serious threats to the use of this judgement: if the pilot himself has an excessively optimistic view of the situation or of his own ability; or else, is persuaded by other people to proceed with a flight against his better judgement. How can this happen?

G. But You Promised!

Never promise to fly on a certain day or to be somewhere important, if you can only get there by flying. If it really is important to be there, leave yourself time for alternative surface transport. Tell friends or relations that you may be able to take them flying weather permitting. Better still, keep it as a "surprise," decide on the day--if you feel prepared and fit, the weather is fine, and the aircraft is serviceable--and offer to take them flying. They won't know that you had to book the aircraft a month in advance. It is always disappointing to cancel a flight if you have non-aviator people, especially children, looking forward to the trip. This is particularly true if the reasons are not easy for them to understand.

H. Peer Pressure

There will always be people who will pressure you in subtle ways to take risks that you don't feel comfortable with. They can be prevalent in clubrooms, asking you if you flew on a certain windy day, and smiling smugly if you say that you canceled whilst they braved the crosswind, low cloud, or lack of horizon. "You diverted? What an idiot! I'd have carried on and got there..." Perhaps they would; alternatively they might have carried on and not got there. Perhaps they are just full of bravado and wouldn't have carried on at all. Perhaps they have more experience, a better equipped aircraft, or suicidal tendencies. It doesn't really matter.

The fact is that the world of aviation relies on competent and independent pilot judgement, and the pilot is you. If you are swayed by clubhouse buffoons, then you are more afraid of their dubious opinions than of your own death. If this applies to you, you may not have the character that is expected of a pilot license holder.

I. Audiences: Are You Impressing Anyone?

In the review of fatal accidents, more than half of the low flying and aerobatic accidents involved an "audience"--seldom at a formal airshow, but more often to impress friends on the ground, at the clubhouse, or even passengers taken for a flight. The temptation to "show off," to impress those watching, proved fatal in too many cases. (In fact, the "audience" are not necessarily filled with admiration while watching these antics. They may simply be wondering when the accident will happen, and what this person is doing with a license.) Before you decide to take such a risk, ask yourself: would the people who are watching be prepared to risk their lives to impress you? What would you think of them if they were?

J. Decisions

It is a well known phenomenon that a joint decision made by a group of like-minded people is usually more extreme than the decision that any one of them, alone, would have made. Pilots tend to be, by their nature, fairly adventurous individuals who are willing to face a certain amount of risk in order to pursue their activities. Committee decision: "we'll give it a go!"

3. DIFFERENT RISKS FOR DIFFERENT PEOPLE

A. Age Groups

The review of fatal accidents suggested that the risks for young pilots were a little different from those of more mature years. Young pilots--especially young male pilots--sometimes took quite unnecessary risks in terms of low flying and aerobatic maneuvers, often in front of friends or others watching. (see "Section 2, I. Audiences...") Older pilots seem less tempted to perform spectacular or risky maneuvers, but they may take a different kind of risk. Pilots who fly into terrain, under full control of their aircraft, and without any significant technical failures are, on average, older than pilots involved in other kinds of fatal accidents. Typically, these pilots continued flying into adverse weather conditions and/or ignored their MSA (if indeed one had been calculated).

B. Total Experience Level

Pilots involved in the fatal low flying and aerobatics accidents are usually highly experienced. Perhaps they believe that because of their very high hours, they can fly safely in these very unforgiving regimes. Pilots in fatal CFIT accidents are also typically very experienced. Again, they may believe that their long experience might allow them to fly safely in conditions that others are advised to avoid. If this thought ever enters your mind, remember that all of those highly experienced pilots in the fatal accident reports also thought that "it would be all right."

Pilots with low flying hours may be vulnerable to a different kind of accident. Those with very low hours feature less in the accident reports than those with 200-500 hours. The latter group seem to be more likely to lose control of the aircraft during visual conditions. This is probably not very surprising, given that these pilots are still quite inexperienced, and may be moving for the first time toward some slightly more ambitious flying.

C. Use It or Lose It

Recency may also be a safety issue; the fact that you could do something perfectly six weeks ago does not mean you can immediately do it now. A skill is like a message written in chalk on an outdoor wall--it gets eroded a little every day. If the writing is retraced repeatedly, it will become more enduring. Even then, it will be eroded eventually if it is not periodically refreshed. Skills are refreshed via practice, annual or recency checks, or post qualification training.

4. ONLY HUMAN

A. Trust Me, I'm a Pilot

Despite what some people may think, pilots are only human and have normal human limitations. The fact that pilots are trained, experienced, and competent does not mean that they will always perform perfectly, that they will never experience an "off day," overload, illusions or distorted perceptions, or that they will never make a mistake. Everyone recognizes that physical parts of the aircraft have a certain expected failure rate, and this is (correctly) seen as a realistic, normal performance level. Human pilots also have a "realistic" performance failure rate, and it is not zero.

B. To Err Is Human

One characteristic of human beings is that we all make mistakes--no matter how well-trained, competent, careful, or skilled we may be. Nobody is immune from errors, and the person who imagines that they are infallible is the most dangerous of all. There are two general classes of error:

- "slips and lapses" include "finger trouble," errors in data entry or recording (such as writing down the wrong digits), or not noticing that an instrument reading has changed;
- "mistakes" refer to actions that the pilot makes intentionally, and executes correctly, but they turn out to be a bad plan.

In general, mistakes are more easily reduced by training, but they still can and do happen. The important thing is to recognize and rectify mistakes--and to learn from them. Slips and lapses can happen to anyone and are, if anything, more likely in highly skilled, experienced people.

C. Believing is Seeing

There are well known optical illusions that can affect pilots judgement, e.g., height perception when approaching sloping runways. In other circumstances, there can be a mental distortion that is nothing to do with visual illusions as such, but can be just as dangerous. Human beings are selective about what they "see." If a person believes something to be true, then they will tend to "see" only those cues in the environment that are consistent with that belief, treating these as positive confirmation that the belief is correct, and "not see," "blot out," or ignore any evidence to the contrary. Unfortunately, pilots are no exception to this rule. If a pilot has formed the belief that he is at a certain geographic location, then his mind may try to organize whatever cues are present in a manner that will confirm this belief. This means that conscious cross checking to look for differences to expectation are critically important and frequently a feature of aviation procedures. This principle can even apply to the expectation that instruments should be showing a certain reading, or hearing an ATC clearance that is expected or usual. It is vital that instruments are actually read and messages are really listened to, with at least some anticipation that they may not say what you expected. It is difficult for anyone to accept this about themselves, especially if they are highly technically qualified and experienced. Believe it: if you are human, this does apply to you.

Stress is a familiar feeling to most people. When people are stressed, their judgement can be affected and their thinking may be unclear. They may suffer from "tunnel" thinking, concentrating on (or over-reacting to) one

particular problem to the exclusion of all else. This is dangerous. If there is a problem in flight, the pilot's first priority must be safe flight. Attention to a faulty radio, airsick passenger, or navigation problem must be a secondary task. If you are feeling stressed before a flight, consider whether you should cancel. If you can foresee a period of high workload during the flight, rehearse it mentally, prepare as much as possible ahead of time, and, above all, remember that your first priority at all times is to fly the aircraft!

5. ONLY A MACHINE

A. Trust Me, I'm Electronic

Just as human beings can make errors, mechanical and electronic devices can also be faulty. Think about what your instruments should say--do a mental "reality check." Always cross check with a second source (e.g., landmarks in the outside view) if possible. Change--especially movement--attracts attention from our senses, but a static condition, or a very slow rate of change, is more likely to go unnoticed. It is important to check all instruments regularly, never think that your attention will automatically be drawn to a deteriorating situation. If your fuel gauge is stuck on full, the needle will remain steady, although actual fuel levels will be dropping. There will be no rapid movement or change to attract your attention.

B. GPS

GPS is becoming a common accessory for GA pilots. It can be tremendously helpful at times and is probably an overall safety "plus." However, a few words of caution:

- Never use GPS as your primary means of navigation
- Never use it to land in poor visibility (and that means you too, helicopter pilots!)
- Never spend time head down, fiddling with GPS, and not watching the outside world.
- Never believe GPS data without question. It is NOT infallible and it CAN go wrong.
- Never fly in conditions that you would normally avoid, because you believe GPS will reduce the risk and get you there safely.

6. HOW DO ACCIDENTS HAPPEN? COMMON SCENARIOS IN THE CAA REVIEW:

A. Controlled Flight Into Terrain

In a CFIT accident the pilot does not lose control, and the aircraft has not failed. They simply fly into the ground, often hills or mountains. The pilots who had fatal CFIT accidents were typically over fifty years old and very experienced. More than a third were flying in their home base local area, and accidents were not restricted to mountainous regions. Of all CFIT accidents, 82% included unwise reaction to weather conditions (such as continuing to fly into worsening weather); 64% had not adhered to their MSA (if they had calculated one at all), trying to get "below the weather" or hoping to confirm their position. More than a third found out too late that they had made an error in navigation.

B. Loss of Control in VMC

Loss of control in visual meteorological conditions (VMC) is almost as common as CFIT. In the accident review, it was noticed that many of these loss of control accidents involved an unfamiliar situation, a distraction, or a minor technical failure. The inexperienced pilot was probably coping quite well until they were overloaded by some unforeseen event. This is probably difficult to avoid, but it is worth rehearsing--even mentally--exactly what you would do if you had a technical failure or encountered a distraction. Also, remember that if the flight you have planned is going to require 100% of your current skill capacity to cope with it, then you won't have anything left in reserve for unplanned or unusual events that crop up.

C. Low Flying Aerobatic

Highly experienced young male pilots (often with an informal audience) who fly low and perform aerobatics without adequate height are putting themselves and others at risk. Accidents are not unusual in these circumstances.

D. Loss of Control in IMC

All but one of the pilots killed when they lost control in IMC were flying in instrument conditions without an Instrument Rating. This is extremely unwise to say the least. Possibly they believed that their IMC rating was sufficient for prolonged, intentional flight in instrument conditions. Unfortunately, the IMC rating is not sufficient for such conditions. It should only be regarded as a minimum skill to "get out of trouble," if an unintentional excursion into IMC occurs. Disorientation can affect anyone, particularly those who have not been adequately trained to fly on instruments AND kept in practice

And finally, the bottom line is: Don't gamble, safe flying is enjoyable flying.

7. SUMMARY

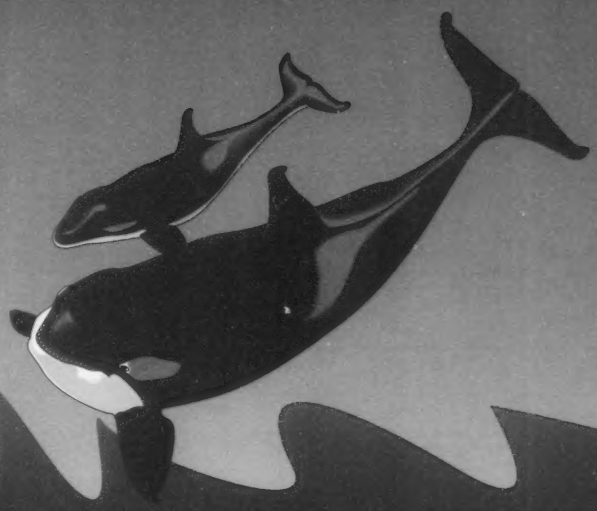
Most pilots want to enjoy the freedom to fly when, where, and how they want to, whilst maintaining safety for themselves and others. The way to achieve and sustain this situation is to:

- be realistic about the weather
- work out a Minimum Safe Altitude (MSA) and keep to it
- use your judgement responsibly, don't be pressured to fly
- know your own limitations
- prepare thoroughly
    - allow for contingency
    - have enough fuel
    - be prepared to divert
- rehearse for possible "situations"
- use good practice in your planning and flying
- don't take unnecessary risks.

This will avoid the need for additional regulations and restrictions and give you safe, enjoyable flying.

Safety1st:

Moose Turns and Whale Watchers



by Patricia Mattison
FAA Safety Program Manager, Juneau, AK

Spring is the time of year when animals are beginning to emerge from their winter habitat and move to areas where they can feed. Coincidentally, pilots are also beginning to escape from their winter pastimes to enjoy the freedom of flight. Spotting animals from the air and then descending to get a better look is a pastime that fascinates most people. Here in Alaska, one of the animals that gets a lot of attention is the migrating Humpback Whale.

The months ahead will be the time to enjoy the migration of pods of Humpback Whale from the air. The fascination and awe these huge animals inspire draw many people to get a closer look. What we humans fail to understand is that these wonderful creatures are mammals, frightened by the proximity of the boats and aircraft we use to enhance our view of their migration.

Put yourself in their place. Let's suppose that you are returning from the market. Just walking down the street with the family, minding your own business. Suddenly you are encircled by hoards of strange looking beings, enveloped in roaring objects that appear to be chasing you and your family. You would be scared to death. You would try to run and hide, protect your young, separate yourselves from the menace. You might hurt yourself just trying to get away. Yet we humans think nothing of going to great lengths to "observe" the whale.

(National Marine Fisheries Service guidelines state that "Aircraft should not fly lower than 1,000 feet while within a horizontal distance of 100 yards from a whale.")

The issue of animal spotting goes a lot further than the whales frequenting our waters. Seals and sea lion pups during this time of year spend a period of time on the beaches and rocks of outlying islands, preparing their young for the winter months. Bear, seen with cubs born during the winter, graze and hunt on the slopes of nearby mountains. Sheep and goats are on the rocks that jut out from the steep slopes surrounding the area. All of these animals, and more, are in peril when frightened by the roar of an airplane engine. Not to mention the pilots who place themselves in a dangerous situation attempting to view Alaskan wildlife.

There are situations that occur each year involving low flying aircraft trying to spot indigenous animals. The fascination with wild creatures coupled with the mountainous terrain we have here in southeast Alaska creates a potentiality for an accident to occur.

Each spring and summer we see accidents and incidents that are directly related to the infamous "Moose Turn." Pilots try to divide their attention between the process of flying the airplane, satisfying the passengers urge to view wildlife, and looking at the animal themselves. In order to do this it becomes necessary to fly at a slow airspeed while executing a turn as well as maintaining a low altitude. Almost certainly a deadly combination.

After some pilots gets their licenses, they seldom, if ever, practice the basic flight maneuvers that they learned as a student pilot. Some pilots do not realize that a stall does not have to be a violent falling out of the sky accompanied by associated buffeting. Whether the power is on or off doesn't really matter to an aircraft that has creased to fly. An aircraft stalls when the wing ceases to develop lift, period. Straight ahead, turning, climbing, or descending, given the right set of circumstances an aircraft can enter a stall. No violent whip of the wing or buffet from the control surfaces, just a descent to the ground that no amount of back pressure on the yoke can cure.

That is a situation that pilots can find themselves in while doing the "Moose (or any animal of your choice) Turn." My advice is to view animals from a safe altitude. Use some binoculars or a camera zoom lens and avoid placing yourself and your passengers lives in danger.

Enjoy the good weather days of spring "safely!"

The Code
Part 2

by Bill O'Brien

In my preceding article, "The Code, Part 1," for this venerable publication, I went over the Code of Federal Regulations, its format and content, and I finished by reviewing Federal Aviation Regulations (FAR) Parts 1, 11, 13, and 21. As a closing thought and in keeping with my personal motto that terrorism is a form of communications, I made a veiled warning to write a second article on the remaining subjects and parts. Well, here it is. But first, for those of you who survived my first mesmerizing article on the code, congratulations! Your sheer courage is duly noted.

For those of you who actually enjoyed the article, I regret to tell you that there must have been a barrister somewhere in your genes pool and I send my regrets.

For those of you who read just a few paragraphs of last month's article and found my words as un-appetizing as bureaucratic salmonella, hunker down and try to work though this. Good or bad, it is a fact that we live in a litigious society and someday the difference between spending a day in court or a day out fishing just might be a regulatory factoid that you pick up after spending nine minutes reading this article.

Now to get started. This second article will delve into some of the codified mysteries in Part 39: Airworthiness Directives, Part 43: Maintenance and Inspections, and Part 91: Record Keeping Requirements.

Part 39: Airworthiness Directives

Part 39 is a part with a very specific mission. It corrects unsafe conditions discovered in either the manufacturing of the product or corrects a defect that pops-up during the product's service life time.

Most mechanics are surprised to learn that each Airworthiness Directive (AD) is an individual rule or section with its own amendment number. Since we are now up to amendment number 11,017 it makes Part 39 the biggest part in the federal regulations with over 11,000 sections or rules.

AD's are divided into three books. Book one has all the AD's issued from the day after the world was made through 1979. Book two covers all the AD's issued from 1980 through 1989. Book three covers all the AD's from 1990 to the present. Each book is broken down into five sections: large aircraft, small aircraft, appliances, powerplants, and propellers.

There are three kinds of AD's. The emergency or priority letter, the immediate adopted rule, and the notice of proposed rule making. Because safety is paramount, the emergency (or priority) letter and the immediate adopted rule are exempt from the long and laborious rule making process. The notice of proposed rule making travels the same route that other proposed rules must travel. It is not unusual for a proposed AD to be canceled by the rule making process. This usually happens when there is a bevy of unfavorable comments to the notice of proposed rule making by the public.

The fastest way to determine the difference between the emergency or priority letter is the emergency AD starts with the words "prior to flight." Most emergency AD's grounds the aircraft until a fix is made. An immediate adopted rule, doesn't ground the aircraft, it gives the owner a little wiggle room to get it taken care off. Immediate adopted rules usually begins with the words: "within the next 10 hours/cycles/days perform the following." The language used in an AD issued under the normal rule making process usually give the owner months

or hundreds of hours to make the fix.

The AD numbering system is straight forward. The first two numbers are the year, the second group of two describe the bi-weekly issue that the AD was assigned. And the last two numbers identify its position within that year, and bi- weekly issue.

Part 43: Maintenance, Preventive Maintenance, Rebuilding and Alterations

Part 43 is where mechanics live. There are only 12 regulations you have to learn, but that in itself is not exactly true. There are only 11 that apply to U.S. certificated mechanics, the 12th rule, Section 43.17, applies to work done on U.S. aircraft by certain Canadian persons. Okay, so U.S. mechanics have 11 rules or sections and six appendices, to work to, but that's not right either. There is nothing in Appendix C, it's reserved, so you only have five appendices to learn.

Part 43's eleven rules or sections can be broken down into five elements:

1. Applicability, in other words what is Part 43 used for
2. Who can do work on aircraft?
3. Who can sign off the work?
4. Record keeping
5. Performance standards

Applicability

Section 43.1 applicability limits its authority to only aircraft having a U.S. airworthiness certificate and foreign registered aircraft used in a Part 121, 127, or 135 air carrier operation. In other words, this rule allows you to work on a German "N" number A320 Airbus operated by United Airlines.

Paragraph (b) of this section states that Part 43 does not apply to any aircraft which has only been issued an experimental airworthiness certificate, such as an amateur-built aircraft. This makes sense if you stop and think that by its very design an experimental aircraft meets no known published standard. It does not make sense for the FAA to impose a maintenance standard on a unknown and hold a mechanic to that standard.

Who can work on an aircraft?

Sections 43.3 gives a long list of individuals who can perform maintenance--manufacturers, repair stations, air carriers, mechanics, people working under the supervision of mechanics, and it evens allows pilots to work on aircraft. In reality, anyone in the world can work on an aircraft, either by holding a certificate or working under supervision of someone holding a certificate.

Who can sign a log book?

While the entire world can work on an aircraft, Sections 43.5 and 43.7 allows only a privileged few to "approve an aircraft for return to service." Just mechanics, repair stations, manufacturers, air carriers, and pilots performing preventive maintenance can approve an aircraft for return to service. Although earning an A&P is an important accomplishment, the real power in being an A&P mechanic is not so much having the ratings, the real power of the A&P certificate is the authority given by the U.S. Government to approve an aircraft for return to service.

What about record keeping?

If you think about it, mechanics have to sign only three pieces of paper. However, the A&P mechanic has the authority to approve the aircraft/component for return to service in only two out of the three pieces of paper.

The first two are maintenance and inspection log book entries. In Part 43 Section 43.9 talks to maintenance entries and Section 43.11 talks to inspection entries.

The third piece of paper is the Form 337. While a certificated mechanic can perform a major repair or major alteration, it is an IA, repair station, or air carrier who return the aircraft or component for return to service. Appendix B in Part 43 is the appendix that talks to maintenance entries on Form 337 and maintenance releases for major repairs and major alterations. Let's look a little closer at the entries.

Section 43.9, Maintenance Entries, requires all log book entries to have:

1. A description or reference to "acceptable data" used
2. The date the work was completed
3. Name of the person performing the work
4. Signature and kind of certificate held

If you noticed there is no requirement to approve the work for return to service in Section 43.9. But the FAA lawyers have that covered. Paragraph (a)(4) in that section says very plainly that the signature constitutes the approval for return to service for "only the work performed." Also, note that the person who signs off the work does not necessary have to be the one who performs the work. If you have a person working under your supervision, even if he or she is not certificated, you must put down his or her name as well as your own.

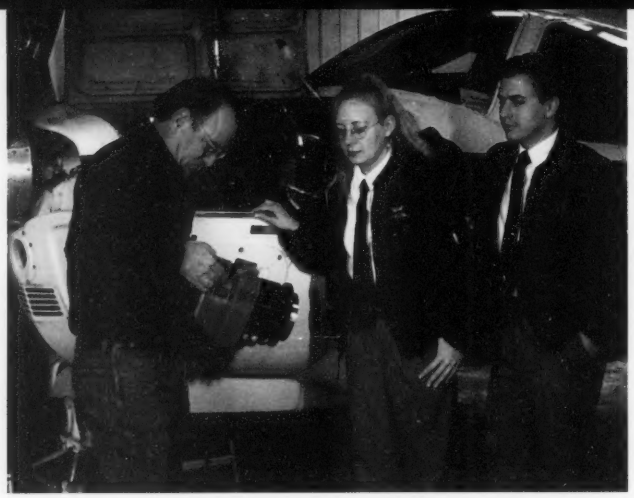
How long are you held responsible?

For maintenance work, such as minor repairs and alterations, the mechanic is held responsible only for the work he or she performed until that work is: re-inspected, altered, replaced, damaged, or reached its life limit. In the Part 91 world, the maximum length of time to be held responsible is approximately one year or until the next annual inspection.

Section 43.11 inspection entries requires all log book entries to have:

1. The type of inspection and a brief description of the extent of the inspection.
2. Date and total time in service. Time in service is defined the time accumulated from takeoff to landing and, yes, using Hobbs time and tach time is just fine--except please do not mix the two together, it makes for a convoluted set of records.
3. The signature and certificate number of the person approving or disapproving the aircraft or component part for return to service.

Remember, inspections--big and small--which are conducted on Part 91



aircraft cannot be delegated to another individual. The one signing the log book entry must be the one who performed the eye ball inspection.

How long are you held responsible for an inspection?

For an inspection, the mechanic is held responsible for as long as it takes for the ink to dry on the log book. While this drastic departure from sanity might sound like the FAA is free basing, the truth is the mechanic has no control over the airworthiness condition of the aircraft once the aircraft leaves his or her care. The FAA would be unreasonable to hold the mechanic responsible for the future airworthiness of an entire aircraft for a undetermined period of time, especially when the aircraft is at the mercy of every pilot out there!

So Part 43, Section 43.11 says that the inspection log book entry declares that every AD and/or every major and minor repair and alteration is airworthy at that moment in time. Another way of looking at this rule is, an inspection approves the past--not the future.

Before I close out inspection requirements. It is a wise mechanic who also understands that Section 43.15 talks to additional performance rules for inspections. It is in this rule where specific inspection items are called out for rotorcraft, annual, 100 inspections, and progressive inspections.

The Form 337 Major Repairs and Major Alterations is a very old form going back to the CAA Form 337 which the FAA embraced. While a mechanic does not have the authority in Part 65 to approve an aircraft for return to service after a major repair or major alteration, it is the mechanic who first makes the decision whether or not the repair or alteration is major or minor.

While Part 43 requires a Form 337 to be made out for a major repair or alteration, it is Part 91, Section 91.417, Recordkeeping, that states the length of time the owner or operator is required to keep the Form 337. For a major repair, § 91.417(a)(1) requires that Form 337 is kept only one year.

The FAA thinking behind this rule is based on the fact that this major repair returns the aircraft or component part back to its original type design so nothing has been changed. Furthermore, in most cases, within a year the repair would be bought off again by a new inspector so the form can be discarded because a copy of the major repair is kept in the aircraft's file in Oklahoma City.

While trashing the major repair Form 337 after a year is perfectly legal, from a purely mechanic's point of view, I sure would want a copy of the Form 337 in the maintenance records in order to see who, what, when, where, and how the aircraft was repaired. So in your and my own personal interest I would tell the owners to hold on to all major repair Form 337's.

On the other hand, §91.417(a)(2) says major alterations Form 337 should be treated different. These Form 337, unlike their major repair cousins, require the owner to hold them forever. This is because each major alteration changes the aircraft's type design. So a record of each change must be kept with the aircraft.

Also, starting last year, the FAA changed its policy on field approved major alterations. Now the mechanic has to develop instructions for continuing airworthiness (ICA) in order to aid the next mechanic a year from now, who has to inspect the alteration that was installed today.

Mechanics usually get into trouble when they write something in the log book. Maybe that is why their handwriting is so small and a little smudgy. But handwriting alone is not the problem, usually the hammer falls because they describe the work performed based on what they think they did and not what was the legally done. To avoid this trap read on.

Section 43.2 is a relatively new rule, as you can tell by its even number suffix. This rule defines the terms: "overhauled and rebuilt." The section defines the major difference between the overhauled unit and a rebuilt unit by stating the overhauled unit must meet manufacturing service limits and a rebuilt unit must meet new part limits. How many times have you and I used the term "rebuilt," to describe installing some seals in a Cessna nose strut, when we should have used the word "repaired" in the log book.

Performance Rules

Mechanics have it a lot easier than pilots because the FAA set the standard for our overall job performance, or how we do our work, in just one rule. Section 43.13, Performance Rules, is a three paragraph rule. Paragraph (a) sets the standard for data and tools that we must use. The rule requires that each person performing maintenance shall (imperative) use the methods, techniques, and practices identified in the "current" manufacturers' manuals or instructions for continuing airworthiness or other methods, techniques, and practices acceptable to the Administrator. The mechanic must also use the tools, equipment, and test apparatus to assure completion of the work in accordance with accepted industry practices.

Paragraph (b) sets the standard for the acceptable quality of work. The rule requires that each mechanic performing maintenance shall do the work

in such a manner, and use materials of such quality, that the condition of the aircraft is at least equal to its original or properly altered condition.

That reference in the rule, "equal to," is very important. If a mechanic makes a repair "better than" the original, that mechanic made either a major or minor alteration to the aircraft's type design.

Paragraph (c) provides special provisions for air carriers. This paragraph basically states that an air carrier's manual and operating specifications constitute an acceptable means of compliance with Section 43.13, Performance Rules.

The last rule that we are going to talk about in Part 43 is another "new rule" because it has an even suffix number. Section 43.16 when you first read it seems like it is repeating the requirements in Sections 43.13 and 43.15, which is exactly right. This rule further nails down the requirements for air carriers inspections, plus it includes those requirements for operators of large, multi-engine turbine aircraft operated under §91.409(e), who were kind of misplaced in earlier versions of Part 43: Maintenance Requirements.

Part 91: General Operating and Flight Rules

The rules in Part 91 that mechanics concern themselves with are the general operating rules. These rules fall into two broad subparts in the rule. Subpart C refers to additional equipment that must be maintained and Subpart E is about maintenance, preventive maintenance, and alterations.

Subpart C refers to equipment that, for the most part, was never part of the aircraft's original type design. This additional equipment was added to the aircraft because it either enhances the aircraft's operating environment or because it was required by regulation. An example of equipment that enhances the aircraft's operating environment are transponders, supplemental oxygen, TCAS, GPS, and even aircraft lights. An example of equipment required by mandatory law passed by Congress is the ELT.

The one rule in Subpart C that mechanics should understand is Section 91.213. This section talks to inoperative instruments and equipment. It starts off with: no person may take off an aircraft with inoperative instruments or equipment installed an approved minimum equipment list (MEL) exists for that aircraft or the conditions of §91.213(d) are met. This could mean a log book entry describing the inoperative equipment and that it does not constitutes a hazard to the aircraft: the equipment is not part of the day, VFR-required equipment; it is not one of the aircraft's required equipment for the kind of flight being conducted; it is not required to be operational by an AD; and the inoperative equipment/control is placarded inoperative.

Granted, while this rule is not especially exciting to read, it can and will get a mechanic in trouble. How so? Because if you do not inspect each inoperative part under §91.213(d) in accordance with §91.405(c) at each 100 hour/annual/progressive inspection the FAA interprets this as not inspecting an "alteration."

This sounds like a wild bureaucratic numbskull notion, but legally a MEL is considered an STC (major alteration) as are the inoperative equipment the pilot signed off under §91.213(d). If you do not perform or record that you inspected the "major alteration" to the aircraft's type design you could be in violation of Sections 91.213 and 43.11 inspections.

Part 91 Subpart E is where we find the requirements for inspections, such as annuals, 100 hour, progressive, and the inspections for large and turbine aircraft under Section 91.409(e)(f). It is also the subpart in which we find the mechanic's favorite rule. Section 91.403 (a) is the rule that the FAA puts the primary responsibility for maintaining the aircraft in an airworthy condition right on the owner or operator.

I believe that 99% of the A&P mechanics have a good working knowledge of the types of inspections out there so I see no need to now go over Section 91.409 in a poor attempt to solidifying my reputation as a regulatory pez dispenser. But I can offer a few words of advice that mechanics should pay attention to when performing an inspection.

1. If an AD does not apply, then say in the log book that it does not apply. It will save you the trouble and time the next time the aircraft is in for inspection.

2. When signing off an annual, only one entry is required in the airframe log book. Because when the term "aircraft" is used as in "this aircraft has been inspected in accordance with an annual inspection," it includes the entire aircraft and must be signed by one individual.

3. For 100 hour inspections, each log book (airframe/engine/ propeller) must be signed. However, as many as six different mechanics can sign off a twin engine aircraft's airframe, powerplant(s) and propeller(s) log books.

4. FAA allows an IA to supervise a progressive inspection. Sometimes the aircraft is at another location and an A&P signs off a phase inspection. This does not mean that the rule can be stretched until the only part of the aircraft the IA sees is the log books. Supervision includes inspecting the other guy's work and photos or videos of the inspection don't count.

5. Don't forget the new policy on instructions for continuing airworthiness (ICA) for major alterations approved under field approvals. The ICA must be made part of the aircraft's inspection program just as if they were ICA that were part of an STC that you installed.

Well, that's your thumbnail sketch of the Federal Aviation Regulations pertaining to mechanics. As I said in the beginning of the article--good or bad, it is a fact that we live in a litigious society and someday the difference between spending a day in court or a day out fishing just might be a regulatory factoid that you pick up after spending nine minutes reading this article.

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Bill O'Brien is a National Resource Specialist in Flight Standards' Continuous Airworthiness Maintenance Division.

Air Rage: Modern Day D

Increasing incidents of "Disruptive Passenger Syndrome" seen by airlines

by Capt. Donato J. Borrillo, MD, JD

There is a question of whether the actual rate of incidents has increased in as dramatic a fashion as portrayed or whether there is now a greater likelihood that such incidents are reported. Whatever the reason, the number of incidents reported by all airlines attributable to "Air Rage" rose from 296 in 1994 to 921 in 1997. Congress will be debating a bill (S. 1139) introduced to deter "Air Rage" by increasing the civil penalty from $1,100 to $25,000 and helping the industry deter such dangerous behavior. -Editor

The first International Conference on Disruptive Airline Passengers was held in April 1997. From this conference, the airlines' experience with passenger violence aboard aircraft indicated an alarming pattern: From 1994 to 1995, American Airlines reported a three-fold increase (296 to 882) of in-flight disruptive passenger incidents; similarly United Airlines noted an almost two-fold increase from 1995 to 1996 (226 to 404).

The diagnosis of "Disruptive Passenger Syndrome" [this term is more often used in England than the U.S.] has been established; therefore, it is incumbent upon the aviation medical examiner to understand the aeromedical basis for "Air Rage" and the legal measures available to aircrew members when these incidents occur.

A disruptive passenger is characterized as one who interferes with aircrew duties and/or the quiet enjoyment of fellow passengers or creates an unsafe flight environment. Disruptive Passenger Syndrome is multifaceted, combining antisocial behavior, the use of alcohol, and perceived loss of control.

Resulting disruptive passenger incidents may include assault, battery, and a wide spectrum of other behavior. Aviation medical examiners should understand that the physiological effects of alcohol, both prior to boarding and in-flight, are more profound in the air traveler. Passengers [affected by alcohol] usually have an empty stomach, are mildly dehydrated, and are exposed to the mild hypoxia of a pressurized cabin (at six to eight thousand feet). Alcohol, when combined with anxiety and a perceived loss of control, may turn the normal traveler into a disruptive passenger. This is not the only reason for disruptive behavior, but certainly one of the most common. A wide variety of motives and underlying pathology may exist for this condition. In 1997, for example, 23,000 illegal immigrants were deported by commercial airline with no escort for groups of less than 12. The majority of these deportations were uneventful; however, as one could imagine, several incidents were reported.

In another situation, passengers may resent authoritative airline figures (aircrew members). Passengers have experienced a decline in airline service to "no frills" accommodations, flight over-booking, and increasingly crowded flights. The resulting stress and "loss of control" may contribute to antisocial behavior.

Disruptive passengers are legally bound by jurisdiction and by both international and U.S. federal law. The 1963 Tokyo Convention on Offenses and Certain Other Acts Committed On-board Aircraft laid down the foundation for countries to prosecute arriving disruptive passengers. This international agreement was signed by 162 nations and was the basis for future International Civil Aviation Organization agreements (Montreal Conventions, Aviation Security Act, etc.). Based upon this agreement, the United States prosecutes inbound offenses, regardless of the carrier's nationality. Unfortunately, authority to prosecute does not equate with an obligation to prosecute, and minor offenses committed upon aircraft landing in other nations may go without prosecution (the so-called "jurisdictional gap"). Furthermore, the individual aircrew member or passenger should understand that they have no "standing" before the International Court of Justice (The Hague, Netherlands).

Within the United States, passenger interference is a federal crime. Pursuant to Federal Aviation Regulation 14 CFR. 91.11 (also known as FAR § 91.11), passengers may not interfere with aircrew. The statute (title 49 USC 46504) establishes punishment (less than 20 years, if unarmed; life, if armed). Interestingly, federal law applies only to a "closed door" aircraft. For example, if the walkway is still attached and the door open, then local police have jurisdiction.

At the 1997 Disruptive Airline Passenger Conference, airline representatives, law enforcement officials, and members of the Association of Professional Flight Attendants and Allied Pilots Association agreed that communication was the key to successful prosecution. The aircrew member must communicate (give notice) to the passenger that they are disruptive and in violation of a federal offense. American Airlines aircrew actually give a written notice (In-flight Disturbance Report), as do some other airlines. [Several airlines have or are developing guidelines for the management of unruly passengers, as well as training programs for the flight crew to defuse

ogfight

es as alarming trend

situations before a crisis develops. If a passenger obeys the written warning, no further action is taken. If the passenger continues to be disruptive, the following steps are taken.] Next, dispatch and airline ground operations must be notified, so that federal authorities meet the aircraft. In order to increase the availability of "federal authorities," some airports have designated local police as "federal deputies" (through the Civil Aviation Security Enhancement program). In addition, airlines are moving towards "zero tolerance" of disruptive passengers by initiating a Passenger Interference Database and facilitating the involvement of aircrew members with federal cases.

The AME should understand that "Air Rage" offenses are crimes against the individual, not the airline, and that prosecution rests with the U.S. Attorney's office. Alternatively, the individual aircrew member may file an action "in tort." (A tort is an intentional, noncriminal action against the aircrew member.)

Fortunately, "Air Rage" has not expanded to the cockpit; however, the AME should have a general knowledge about the problems faced by aircrew members and their modern-day dogfight with disruptive passengers.

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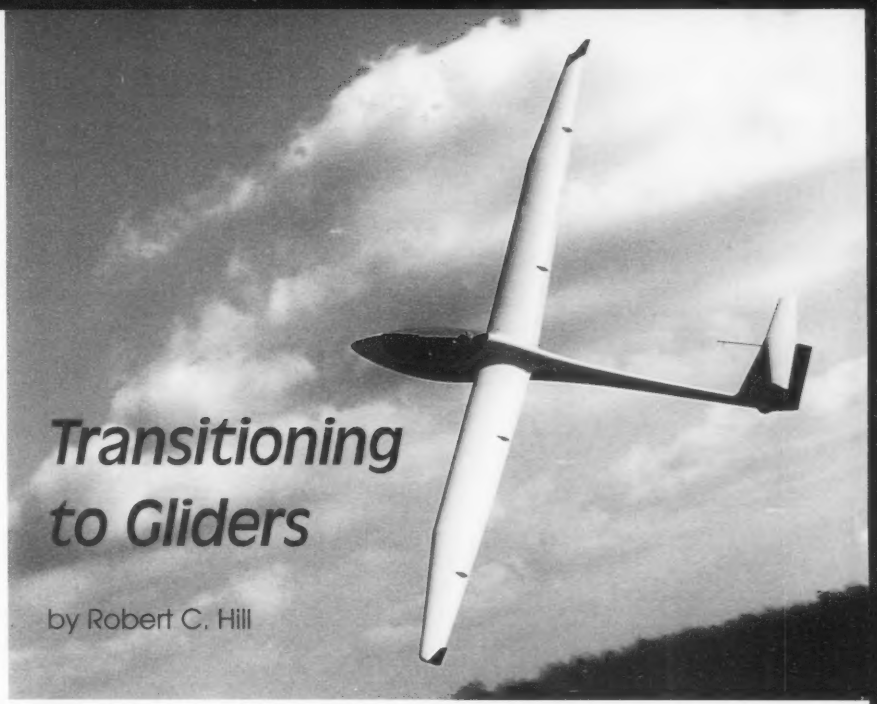

Transitioning to Gliders

by Robert C. Hill

Some of the most rewarding methods of increasing proficiency and enhancing flying safety may be found by challenging oneself to obtain experience in different categories and classes of aircraft. The acquisition of a tailwheel endorsement, a seaplane rating, or glider category add-on are some of the possibilities if you wish to tackle something new.

There are large numbers of glider pilots who fly powered aircraft or who are professional pilots. They enjoy the challenge of flying different aircraft requiring different skills, as well as the cognitive meteorological scheming involved to keep a sailplane aloft, thereby precluding a premature landing. Many power pilots have been known to be quite apprehensive about accepting a flight in a glider. You need not be so concerned. Flight instructors are well aware that very few pilots can transition into a new kind of aircraft and perform well on the first attempt. After a couple of flights in a sailplane your anxieties concerning the security of having a powerplant will subside. Hey, look at it this way: You won't have to be concerned about engine malfunctions or engine failure, and fuel exhaustion will not be of any concern!

Transitioning pilots should try to locate a glider instructor who is also an instructor in airplanes or at least has a rating in powered aircraft. The analogies used by these types will greatly aid in minimizing some frustrations that present themselves when we become beginner students once again. You will discover that these new skills and habits to be developed will come rapidly. For transitioning power pilots, Part 61 of the Federal Aviation Regulations (FAR) specifies the aeronautical knowledge and experience requirements necessary to obtain a private, commercial, or flight instructor certificate add-on. If you're already power rated there is no written knowledge test required, and one must satisfy only the oral and flight portions of the appropriate practical test standard with an examiner. However, a flight instructor glider add-on will entail a written knowledge examination as well as the requisite practical test.

A glider's overall appearance is very similar to the airplane. Like airplanes, gliders are designed and constructed by different manufacturers, and many distinct features may be found on the various types of designs. Most pilots would readily recognize the long slender wing planform associated with most gliders. This larger aspect ratio allows for greater wing efficiency by minimizing the amount of surface area that would be contaminated by the wing tip vortices. Wing tip vor-

tices, of course, are the by-product of the pressure differential that exists between the upper and lower curvatures of a wing. Wingtip vortices are a source of induced drag. Unlike the docile Cessna 172 or Piper PA-28 series aircraft, when a roll to a given bank angle is initiated in a glider, a larger excursion of the rudder pedal will need to be applied to counteract the effects of adverse yaw. Recall that the lowered aileron providing the source of lift to roll the glider is also now creating induced drag and form drag. This will serve to retard the forward progress of the raised wing and adversely yaw the aircraft to the outside of the turn. The aileron's greater distance from the longitudinal axis of the glider will now provide a greater yawing moment or adverse yaw effect about the vertical axis. Sailplanes will not tolerate the poor rudder technique allowed in most modern light airplanes. Moreover, gliders have a yaw string to measure the quality of rudder coordination as opposed to the inclinometer found in airplanes. The yaw string is simply one or more short lengths of yarn taped to the canopy. The idea is to keep the yaw string trailing in a straight line. However, unlike the airplane where one "steps on the ball," the glider pilot is required to apply rudder that is opposite the yaw string deflection. Apply the rudder that is opposite the yaw string or more simply "step on the tape." The yaw string indicates whether or not the sailplane is flying straight through the air. With respect to efficiency, the yaw string is the most important instrument on the glider, if one wishes to remain aloft as long as possible.

Many gliders are equipped with flaps like their airplane counterparts and may be used when thermaling aloft when a smaller radius of turn is desired. Moreover, many gliders, (but not all gliders) utilize flaps for departure or landing. More common to all sailplanes, however, are the spoilers or airbrakes. Spoilers are located at or near the center of pressure. Their function is to spoil lift and aid in dissipating altitude. Air brakes, (sometimes referred to as dive brakes) are positioned farther aft on the wing and are usually much larger. "Balanced" spoilers or brakes extend from the top and bottom of each wing. This arrangement allows the brake on the underside of the wing to aid in deploying the brake on the upper surface. Both spoilers and airbrakes produce drag, retard performance, and allow the glider pilot to control the sink rate and steepness of descent. Transitioning pilots need to think of the air brakes on the glider in the same manner they would of the throttle in an airplane during the landing approach. Air brakes are essentially used in the traffic pattern to dissipate altitude and control the sink rate to the landing touchdown.

Glider cockpit instrumentation is not at all dissimilar from airplane instrumentation, with the exception of the variometer. Variometers are similar to vertical speed indicators and depict the glider's rate of climb or descent by detecting pressure changes. There are different types of variometers. Some have audio devices to supplement the visual cues, and others are designed to detect whether the airmass surrounding the sailplane is rising or descending. Most gliders have their variometers coupled to a Total Energy Compensator. This device cancels out false indications of lift and sink (termed "stick thermals") by measuring the summation of both potential (height) and kinetic (speed) energy. This assists the pilot in evaluating the strength of rising or descending air masses. The total energy probe is most likely found on the leading edge of the vertical stabilizer.

Occasionally one may notice gliders that sport small reciprocating engines which retract into the fuselage. These engines may be used to sustain flight when thermal or ridge lift ceases to exist. Other motorgliders are capable of departing or "self launching" completely unaided, contingent upon weight and density altitude. Another somewhat uncommon launching method is when the glider is placed in motion by a ground launch device such as a powered winch. Gliders may also be towed by a vehicle accelerating down the runway. Winch launches and auto tows are referred to as "ground tows." Most typically, however, sailplanes in the United States are towed aloft by an airplane. This is simply referred to as an "aerotow." Initially, the aerotow will prove to be most challenging, demanding a pilot's strict attention. To act as pilot in command of a glider executing a different type of launch procedure, the applicant requires training to proficiency and a logbook endorsement from an authorized flight instructor detailing the type of launch equipment used.

Many of the maneuvers practiced in a sailplane are similar to those executed in airplanes. Stalls, turning stalls (there are no power on stalls!), steep turns, slips, flight at minimum controllable airspeed, and spins are some of the most familiar. Glider pilots spend most of their time aloft flying near the critical angle of attack, usually while turning. Consequently, the glider pilot needs to become quite comfortable loitering near the edge of a stall. A sailplane pilot learns to "fly the wing" while managing energy and inertia. One interesting and challenging exercise performed during an aerotow is a maneuver termed "boxing the wake." Visualize flying in trail behind the towplane and then proceeding to maneuver in such a manner as to outline a rectangular-shaped box around the towplane's wingtip vortices and propeller slipstream only to complete the exercise at the same position at which the maneuver was initiated. Tow pilots love this one!

Hopefully, this very brief overview will encourage you to seek more information on the sport of soaring and hopefully treat yourself to a flight. A directory of soaring sites and learning centers may be obtained by calling the Soaring Society of America (SSA) in Hobbs, NM at (505) 392-1177 or by accessing the SSA website at <www.ssa.org> . Flying gliders is one of the most rewarding types of flying fun. Certainly, the best way to find out is to give it a try.

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THE LONGEST NIGHT

by PA3 Eric Hedaa,
Coast Guard Public Affairs,
14th Coast Guard District,
Honolulu, HI

Even though his ship was in a maintenance period, Lt. Kevin Lopes, the commanding officer of the Coast Guard Cutter Kiska, a 110-foot patrol boat homeported on the Big Island of Hawaii, recalled his crew to underway when he heard about the downed Piper. (Coast Guard Photo by PA2 Sarah Foster-Snell)

EDITOR'S NOTE: The following story describes an aircraft rescue that involves two lucky pilots, the professionalism and dedication of the U.S. Coast Guard, and the world-wide search and rescue services of the volunteer Automated Mutual Assistance Vessel Rescue System (AMVER). The article discusses several important search and rescue decisions that the pilots had to make, decisions that all pilots with a known aircraft problem have to make as they decide to continue flying from daylight into darkness. The question is, is it safer to try to get to a safe haven--or in this case, to land--or is it safer to make a controlled precautionary emergency landing during daylight? Intuitively, most of us assume that making a night emergency landing off airport in the ocean or over hostile terrain increases the accident risk. What would you have done?

The article also highlights the need to make sure your emergency equipment works, the importance of having some type of light on your person in today's world of night vision devices, and the benefit of keeping your backup emergency locator transmitter or radio out of your life raft. We are not making any judgements on these issues. We only want to give you something to think about. Would you have done anything differently?

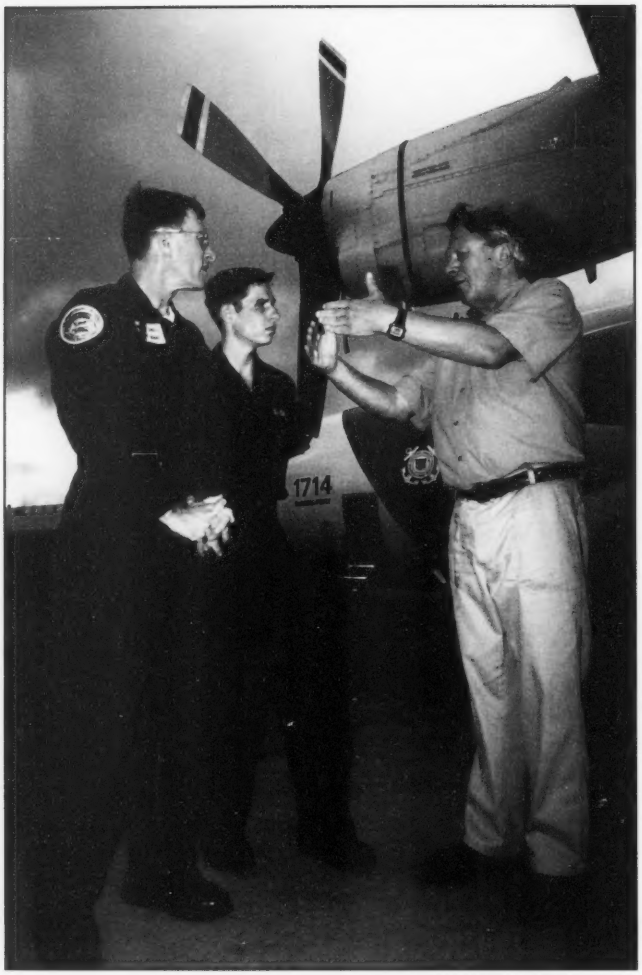
Aside from the plane crash, the two men faced some significant problems. First of all, it was night, and the plane's electrical system was out of commission. They had no lights or electronic signals to guide rescuers to their position. Then the life raft failed to inflate, which hurt, because the plane was sinking quickly in the ten-foot seas. But things really started to look bad when the men realized the Coast Guard plane was returning to Hawaii, leaving them alone, fighting for their lives against the Pacific Ocean, 300 miles from shore. However, Raymond Clamback, 63, and Dr. Shane Wiley, 50, both natives of Sydney, Australia, had no intentions of letting a few problems spoil their trip to Hawaii. And for that matter, neither did the United States Coast Guard.

Clamback runs an airplane ferrying and flight instruction business in Sydney. He and Wiley were on the second leg of ferrying a brand-new, $170,000, single-engine Piper *Archer III* airplane from Vero Beach, FL to Hilo, HI. He's made more than 150 ocean crossings, and has 40 years of flight experience. Clamback's friend Wiley, a novice pilot, was along for the ride. They departed Santa Barbara, CA on November 20 and began the 2,400-mile trip to Hilo with blue skies, a slight headwind, and the morning sun over their left shoulders. Underneath the small plane, the Pacific Ocean waited patiently.

The trouble started 1,700 miles into the trip. At 3:00 p.m., the low engine oil pressure light alerted Clamback that he and Wiley might be going for a swim in the near future. "That's not a good sign. We didn't feel so good," Wiley said.

The nearest airplane mechanic was 700 miles away in Hawaii. Because engines don't work without oil, and airplanes don't fly 700 miles without engines, Clamback immediately contacted the Federal Aviation Administration (FAA) in Oakland, CA, to let them know he and Wiley were having problems.

The FAA notified the Joint Rescue Coordination Center (JRCC) in Honolulu. The JRCC is the only emer-



Raymond Clamback(right) discusses his rescue with two of his rescuers, Captain Roger Whorton(left), the aircraft commander of the second C-130 which spotted Clamback and Wiley, and Petty Officer 3rd Class Craig Pfeifer(center), one of the plane's dropmasters. (Coast Guard Photo by PA3 Eric Hedaa)

gency response center in the country that combines rescue resources from the Coast Guard and the Air Force.

"At that point, the pilot was very nervous," said LCDR. Jack Laufer, the search and rescue controller at the JRCC who received the initial call and coordinated the rescue effort. "He was very apprehensive about his ability to stay in the air. He said, 'I can't stay in the air for ten minutes.' Our first reaction to that information was to find a ship that was close, and have him ditch by it."

The JRCC immediately notified ships along the plane's flight path and had Coast Guard Air Station Barbers Point launch a C-130 *Hercules* long-range search and rescue airplane.

When Clamback heard that a Coast Guard plane was en route, he decided not to ditch. "I put a great deal of value on the services the Coast Guard provides," Clamback said. "I felt I was better off by rendezvousing with the C-130."

Clamback's engine continued to run and in less than three hours he and Wiley saw the Coast Guard plane. The C-130 is a huge airplane with a range of 2,600 miles, capable of 14 hours of flight time. The Coast Guard plane fell in behind the troubled Piper, providing a safety escort.

"They were very quick to get out there. I just can't say enough about those fellows," Clamback said.

Clamback and Wiley briefed the Coast Guard pilots on their situation. Their oil pressure was low and dropping, and so was the sun. There were two options; fly toward the nearest ship and ditch the plane, with power, in the daylight, or try to make it to Hilo and face the grim possibility of a power-off, night-time ditching. Everyone involved knew that ditching the plane with power and good visibility was much safer than ditching it at night without power. On the other hand, the Piper had flown 200 miles since the oil pressure began dropping, and the Coast Guard was on scene in case things went bad.

"We were hoping he could make it to Hilo," said Lt. Elizabeth McNamara, the co-pilot of the C-130, who was flying on her first search and rescue mission.

"The C-130 calmed him down," Laufer said. "Our pilots helped him make the decision, but we couldn't make that decision for him."

Commercial airline pilots, listening to the dramatic situation as they flew overhead on their way to and from Hawaii, also offered Clamback advice and encouragement. "A bunch of airliners in the area were calling in and telling (Clamback) about similar situations they knew of that had had positive outcomes." McNamara said. The airline pilots wanted Clamback to try to make it to Hilo. "They were telling him, 'You have the right kind of airplane for this problem.'"

Clamback decided to risk the power-off, night-time ditching, hoping the Piper could make it to Hilo, or at least get within 150 miles of shore, where a Coast Guard HH-65 *Dolphin* helicopter could pluck the two men from the water. "It gives you a great deal of confidence out there when you know the U.S. Coast Guard is there to help you," Clamback said.

As the two planes flew towards the setting sun, the Coast Guard pilots came up with an emergency ditching plan and instructed Clamback and Wiley on what to do if the

Piper's engine seized. The Piper was 500 miles from Hilo, an island it would never reach.

By 7:20 p.m., the sun had sunk into the Pacific. The Piper and the Coast Guard C-130 had flown almost 200 miles since meeting. The Piper's engine seemed to be holding. With clear skies and a brilliant moon, visibility was excellent. But all of that was about to change. First, the planes flew into a rain squall and lost sight of each other. Visibility was cut to zero. Then the Piper's engine began to fail. Clamback immediately radioed the C-130.

"You could hear in his voice ... he was very nervous," said Lt. Matthew Reid, the C-130's aircraft commander. "He said, 'Hey guys, it doesn't look like it's going to make it.'"

"He radioed and we could hear banging in the background," McNamara said. "He was talking really fast. He said, 'I think it's going to quit on me.' It was an intense situation. A few seconds later we heard no noise in the background. We knew he was just a glider at that point. We knew he was going into the water, and that is not a good thing."

The Coast Guard plane had been flying at 7,000 feet above sea level, 1,000 feet above the Piper. When Clamback radioed that his engine was failing, Reid put his ditching plan into action. He threw his plane into a sharp, 45 degree, diving turn, dropped down below the Piper, and raced ahead of it on a new heading. McNamara told Clamback to follow them on the new heading so that his airplane would be parallel to the ocean's 10-foot swells when he hit the water.

"We were 300 feet above sea level, and we were still in the clouds," McNamara said. "All night it had been clear, and we flew into a rain squall right when his engine failed."

In the back of the Coast Guard plane, crewmen began dropping a string of Mark 25 and Mark 58 flares, which burn yellow for up to 60 minutes, from the plane's flare launching system. They also dropped a data marker buoy, which transmits a radio signal, to mark the approximate location of where the Piper was going down.

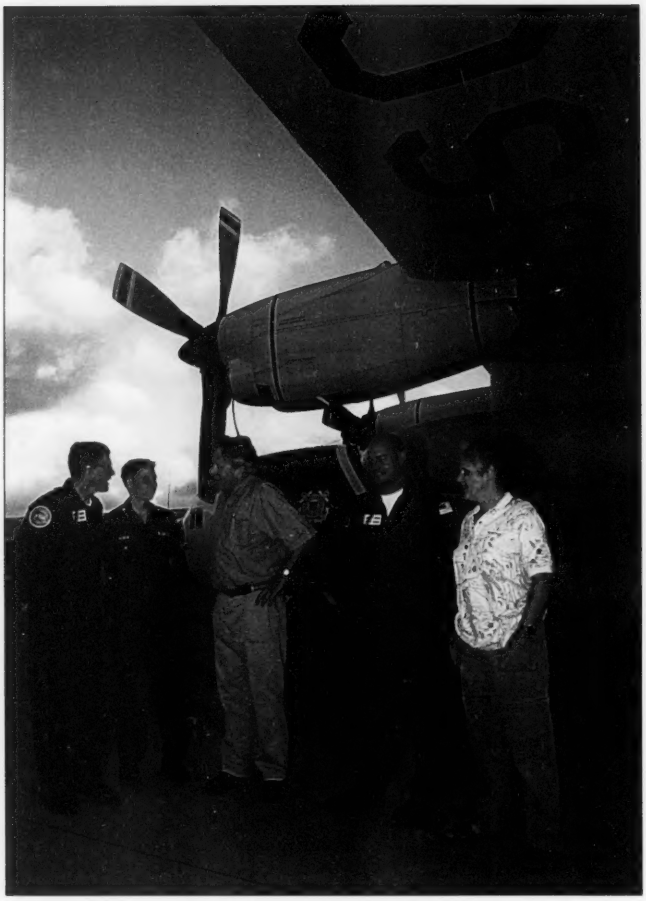
Reid's plan was to use the flares to light up a "runway in the sea" for Clamback, however, because they'd just flown into a rain squall at night, the crew aboard the C-130 could not see if the Piper was following them or not. The Coast Guard pilots tried in vain to radio Clamback, but after Clamback's initial call about his engine failing, the C-130 lost all radio communications with the Piper. Reid knew his plan would fail if Clamback hadn't changed headings to follow them.

"Clamback told me his lights would stay on for a while after his engine quit, but we couldn't see anything," Reid said. The Piper's radio and electronic locator transmitter signals disappeared about fifteen seconds after its engine quit, McNamara said.

Aboard the Piper, Clamback and Wiley were preparing to crash a small, powerless, fixed-landing-gear aircraft into ten-foot ocean swells, during a rainstorm, in the dark. "When the engine seized there was a large bang and all the electronics went out," Clamback said. "I think a piston or a cylinder from the engine went through the electrical system. Neither our beacon nor our lights were working." But fortunately, before his electronics went out, Clamback had gotten the new course heading from the Coast Guard and turned onto it. "Once the engine quit, I had no options," Clamback said. "I was committed to do exactly what the Coast Guard told me to do. I kept thinking, 'the water's coming up, the water's coming up.' Shane was very concerned that I'd stall the plane. They were already tight, but we tightened our seatbelts anyway."

About one minute before slamming into the ocean, the Piper came out of the cloud cover. Clamback saw the line of flares from the C-130 lighting up the ocean. The flares were providing a frame of reference to judge the plane's altitude and allowing Clamback to see how the waves were breaking. The

Raymond Clamback (right) thanks two of his rescuers, Captain Whorton (left) and Petty Officer 3rd Class Pfeifer. (Coast Guard Photo by PA3 Eric Hedaa)



From left to right, Capt. Whorton, aircraft commander of 2nd C-130 flight, Petty Officer 3rd Class Pfeifer, dropmaster on the 2nd flight, Clamback, Petty Officer 3rd Class Shane Reese, dropmaster who spotted Clamback and Wiley, Aminta Hennessy, Clamback's friend and partner, "talk story" in front of a Coast Guard C-130. (Coast Guard Photo by PA3 Eric Hedaa)

runway in the sea was working. The moment every person who flies hopes to avoid was upon Raymond Clamback and Shane Wiley. Despite their efforts to get the plane to Hilo, the Piper was now committed to going someplace the two men desperately did not want to go. With the engine dead, they were losing altitude fast. The two men braced for impact.

"I knew I had to get close to a flare to judge my altitude, and I did," Clamback said. "We landed 20 to 30 feet from a flare. The crash was pretty solid, we had bruises from our shoulder harness, but we didn't sustain any major injuries. Our seatbelts held us." With the help of the flares, Clamback had put the plane down perfectly. "I wouldn't be here if it wasn't for them," Clamback said.

"This idea isn't part of the National Search and Rescue Manual that we use for training," McNamara said. "It was LCDR. Reid's idea. It's a pretty innovative technique."

After the crash, the two men climbed out of the plane and onto one of the wings. Clamback threw the plane's life raft into the water and found it to be about as cooperative as the plane's engine had been

"Unfortunately the life raft didn't inflate," Clamback said. "And the plane sank within three minutes of hitting the water."

Clamback and Wiley jumped off the wings into the ocean moments before the plane sank. In the darkness and confusion, the life raft disappeared, taking the portable electronic position indicating radio beacon with it, Clamback said. The two men were now bobbing in the Pacific Ocean, 300 miles northeast of the Big Island of Hawaii, with only their lifejackets for protection against the 10-foot seas.

"It's disturbing to see a plane go down," Clamback said. "It was a very good airplane, I was saddened, but I didn't feel lonely, because (the Coast Guard) was overhead."

After dropping the flares for the runway at sea and a data marker buoy to mark the approximate location of the crash site, the C-130 turned back and began searching for any sign that Clamback and Wiley had survived the crash. "The way the lights went out...and then their beacon went away--It seemed to us that the aircraft sank immediately," Reid said. "We wanted to find them so badly. I was on the edge of my seat the whole time," McNamara said.

Reid and McNamara's plane, like all Coast Guard C-130's, was equipped with life rafts that could be dropped to Clamback and Wiley. The Coast Guard crew realized that if Clamback and Wiley had survived the crash, the C-130's life rafts could keep them alive until a ship arrived to pick them up. After dropping the flares, the C-130 continued searching for Clamback and Wiley for two more hours, but with no lights from the plane, and the rain squall continuing to obscure their view, the C-130's crew could only occasionally see the line of flares they'd dropped and nothing else. By 9:30 p.m., their plane was running low on fuel. Reluctantly, Lt. Reid turned his aircraft towards Air Station Barbers Point, leaving the Australians alone in their struggle against the seas.

"It was an extremely difficult decision," Reid said. Clamback and Wiley heard the C-130 running its search patterns overhead. "We didn't know they'd lost us," Clamback said. "At one point, it came right at us, and we thought, 'Hello, now they've got us

sighted.' But then they turned within a half-mile away. After that time, they didn't come back."

Back in Hawaii, Coast Guard Group Honolulu had already dispatched the closest Coast Guard Cutter, the *Kiska*, a 110- foot patrol boat homeported in Hilo to the crash area. A second Coast Guard C-130 launched from Air Station Barbers Point and headed for the crash area. This C-130 brought night vision goggles to assist in the search. For Clamback and Wiley, this high-tech search tool would prove to be a lifesaver.

Because the *Kiska* was over 300 miles from the crash area, the JRCC requested assistance from three ships in the vicinity of the Piper when it went down. The messages were sent as part of the Automated Mutual Assistance Vessel Rescue System, which tracks volunteer vessels across the world's oceans and requests assistance from them in case of an emergency.

The *Nyon*, a 743-foot Bahamas-registered bulk carrier on its way from New Orleans to Inchon, South Korea, was 70 miles from the crash area when it received the AMVER request from the Coast Guard. The *Nyon* changed course and headed for the crash area. For Clamback and Wiley, help was on the way, but it was going to take time.

"I had no idea what time it was," Clamback said. Unfortunately the life raft didn't inflate, so we spent the next 10 hours in the water. It felt like forever. I was too busy trying to survive to think about our situation. We kept swallowing water and getting hit by heavy seas. We had to induce vomiting to get it out of our system. I felt I was weakening so badly. It was very close. I nearly didn't make it."

"We didn't know if we were dead or alive at times," Wiley said. "We had that for ten hours. It wasn't great. It really wasn't great." The two men stayed close to each other as they fought the seas. "We kept talking," Clamback said, "about how to protect our faces from the water, about how to best conserve energy. Shane would help me when my legs would cramp by lifting my leg."

The second Coast Guard C-130 arrived at the crash area at 12:30 a.m. and immediately began searching for Clamback and Wiley. The rain squall had dissipated and the moon was providing 100% nighttime visibility. The mood aboard the C- 130 was one of reserved hope. "When you're looking for two people out on the open ocean, at night, with the seas they had, which were up about 10 feet, it is very, very hard to find somebody," said Capt. Roger Whorton, the second C-130's aircraft commander and Coast Guard Air Station Barbers Point's commanding officer. But on this night, an ironic luck was placing Raymond Clamback and Shane Wiley in impossible situations and bringing them through unscathed.

Ten minutes into the search, Petty Officer 3rd Class Shane Reese, a dropmaster on the C-130, spotted two dim lights through his night vision goggles. "I looked out and saw two floating lights," Reese said. "Without the night-vision goggles, it would have been impossible to see (the lights). We thought they were the plane's wing-tip lights. We went down as low as we could, but we still couldn't tell what we were looking at. Even flying in the daytime, seeing a person in the water is hard. We dropped three flares and a data marker buoy, and circled around until the *Nyon* got on scene."

After radioing the JRCC and the *Nyon* with the news, the C-130's crew discussed dropping a life raft, but decided to wait until they could verify that Clamback and Wiley were by the two lights. If they weren't by the two lights, the C-130 risked not having a raft to drop to the men if they spotted them someplace else. Whorton took his C-130 to 200 feet above sea level as slow as the aircraft could go and still fly, but the crew was still unable to determine what they were looking at. "We thought if it was a person, they'd be waiving the lights, but they looked like they weren't moving," Reese said.

Whorton brought his C-130 into a circular flight pattern around the two lights in the water while they waited for the N*yon* to arrive and tell them if they were circling wreckage, bodies, or, hopefully, survivors.

The *Nyon* arrived on scene at 3:15 a.m., and the C-130 guided the ship to the dim lights from above. Lookouts on the *Nyon* reported to the Coast Guard that they could hear two men yelling. The crew of the C-130 was elated. "We were all listening to the radio," Reese said. "The *Nyon*'s captain said they heard somebody screaming and they were trying to get into position to pick them up. We felt great. We were all yelling, 'Yeah!'"

The two lights Reese had spotted were not the wing-tip lights of the downed Piper, but two small personal marker lights attached to Clamback and Wiley's life jackets. With the help of the night vision goggles, the Coast Guard C-130 had found two needles in the haystack. "I really was surprised," Whorton said. "I think they were very fortunate to survive a night ditching. Any time you make a power-off water landing at night, especially in seas like they were in you may very well crash into the sea and not live through the experience."

But the two Australians' troubles were still far from over. They now faced the difficult task of getting aboard a 743-foot ship in the same 10-foot seas they'd been struggling against for the past eight hours. Exhausted, dehydrated, and suffering from hypothermia, the two men began swimming towards the huge ship.

"It seemed a long way away, and I'm not a young man," Clamback said. "But seeing it was a relief. We started swimming for it, and Shane got there first--he's younger than me. It took him about half an hour to reach the ship. They threw him a life ring and hauled him up on the ship. I had a lot of trouble getting (close to the ship) because after the water would go in there, it would come back out and wash me back out with it. It was frustrating, to be that close. I used every muscle in my body that I haven't used in 40 years. But I finally made it, and they threw me a line. I couldn't believe it. When I got on deck, I couldn't walk." By 4:50 a.m., both men were

safely aboard the *Nyon*.

Shortly afterward they were transferred to the Coast Guard Cutter *Kiska* and on their way to Hilo, Hawaii. Aboard the *Kiska*, the men were checked out by Coast Guard emergency medical technicians and found to be in remarkably good condition for all they'd been through. Clamback and Wiley were bruised, exhausted, dehydrated, and suffering from mild hypothermia. Their eyes were red and swollen from prolonged exposure to the salt water. But both men had escaped serious injury. In fact, neither required medical attention beyond the first aid they received on the Coast Guard Cutter and the *Nyon*.

After providing Clamback and Wiley with a warm shower, a hot meal, and some dry clothes, the *Kiska* arrived in Hilo on November 22 at 8:00 a.m. As he departed the *Kiska*, Clamback turned and saluted the American flag on the cutter's stern.

"I really owe my life to these fellows," Clamback told a group of reporters on shore. "I wouldn't be here if it wasn't for them. I'm very grateful." "It's just a miracle," said Clamback's friend and business partner, Aminta Hennessey, who flew to Hawaii to be with her friend. "I'm relieved and amazed. That's just amazing that they got out of it. The Americans just get out there, say, 'Fantastic training exercise, and we'll get them.'"

When asked if they would fly again, Wiley said he planned to give flying a break for a while. But Clamback answered with a quick, "Yes, sir. I'm going back to the mainland. I've got two more planes to bring out here."

The Coasties involved in the rescue were thrilled. "We were amazed the next morning when we found they were alive," said McNamara.

"I really am surprised," Whorton, who has 31 years of military flying experience, said. "A rescue like this reminds me why I joined the Coast Guard."

"One mission like this makes your whole job worthwhile," Reese said. "If you can save one person, that's all you need to keep you motivated to go back for more." ✠

CALENDAR OF EVENTS

March activities at the National Air and Space Museum are:

Month of March - "Women in Flight: A Scavenger Hunt"

Test your knowledge of women's aviation history by participating in a museum-wide scavenger hunt prepared by the museum's Educational Services Unit. Scavenger hunt activity sheets can be picked up at the Information Desk in the South Lobby.

March 18 - "Hands on History Day: Women in Aviation"

The National Air and Space Museum commemorates Women's History Month with an all-day festival of educational activities from 10:00 a.m. to 3:00 p.m.

March 25 - "Landing on Mars"

(Albert Einstein Planetarium, 6 p.m.)

Join Smithsonian geologist and Mars exploration expert, Bob Craddock as he ponders the complexities of selecting a landing site on Mars. Also preview the night skies of April.

The National Air and Space Museum at Sixth Street and Independence Avenue, SW, Washington, DC 20560, is open seven days a week from 10 a.m. to 5:30 p.m. (except Dec. 25). For further information, visit NASM's web site at <http://www.NASM.si.edu> or call (202) 357-2700. To make reservations for a tour at the Garber Facility in Suitland, MD, call (202) 357-1400.

Other aviation events:

April 5-8 - Formation Clinic, Tallahassee, FL

THE AIRMEN hosts a clinic which includes YAK Club Regional Fly-in, formation practice, ratings and aerobatic competency evaluations (FAA 'low level waivers') available. For registration information, contact Mark Chamlis (850) 877-9477(work), (850) 668-6541 (home), or e-mail gravedigger@nettally com.

April 28-30 - Freeman Army Air Field Reunion, Seymour, IN

A reunion of former base personnel. For information contact Ted Jordan or Jane Henley at Freeman Municipal Airport, P.O. Box 702, Seymour, IN 47274, or phone (812) 522-2031.

May 6-7 - 2000 AIR & SEA SHOW, Fort Lauderdale, FL

The free public two day air, water, entertainment event is along four miles of Fort Lauderdale beach. This year's theme is "National Salute to the U.S. Military" featuring both military and civilian performers. For more information, contact 2000 Air & Sea Show at (954) 527-5600, ext. 88, or visit its website at <www.airseashow.com>.

May 14-17 - P-47 Thunderbolt Pilots Association Annual Reunion, Savanna, GA

For more information contact John Hartshorn, Chairman, 18 Rookery Road, Savannah, GA 31411, (912) 598-1333 or Bob Richards, PR, P.O. Box 3299, Topsail Beach, NC 28445, (910) 328-8781, e-mail bobr@wilmington.net.

May 24-27 - Formation Clinic, Greenwood, MS

THE AIRMEN hosts a clinic which includes YAK Club Regional Fly-in, formation practice, ratings and aerobatic competency evaluations (FAA 'low level waivers') available. For registration information, contact Vernon Ricks (662) 453-5646 (work), (662) 453-8512 (home), or e-mail vernricks@microsped.com.

Becoming a High Time Pilot

by Harry Kraemer

Ed Long is recognized as the world's highest time pilot (65,000 hours). Ed started flying in 1933 at the age of 17 and spent most of his flying career as a powerline patrol pilot. Ed passed Max Conrad's record (nearly 53,000 hours) in 1989 and continued flying his *Super Cub* up to his final hospitalization. Ed passed away in July 1999. Max Conrad is considered as one of the greatest pilots who had ever lived. Max spent most of his career flying light general aviation airplanes. Max has been described as the foremost pilot of light planes in the world. Max's resume looks like a page from the Guinness Book of World Records (with many firsts and records on it). Evelyn Bryan Johnson was featured in *Aviation for Women* stating that she has 56,600 hours logged. All of these pilots have something in common, they have all enjoyed a long and rewarding aviation career, and all three have logged over 50,000 flight hours.

What does it take to become a 50,000-hour pilot? Remember the old aviation saying, "There are old pilots and bold pilots, but there are no old bold pilots". This is very true! Develop personal weather minimums and stick with them. Do not let others influence your decision (if you are not comfortable with the weather or aircraft). Know your own limitations.

Every career minded pilot wants to step up to bigger, faster, and more complex planes. This is fine, however taking giant leaps early on in your career has proven to be disastrous for some unwary pilots. Stepping up is okay if you take your own size steps. The trouble starts when you take steps that are too big for you or that were meant for someone else. Flying careers, like everything else we build, need a good foundation. Start with a good foundation! Just like Ed, Max, and Evelyn you will be rewarded with thousands of hours of enjoyable flying. Maybe you will even pass the 50K total!

Moving from a single engine land complex airplane to a light twin (especially of the same make), is a nice and logical progression. This is a good move because manufacturers tend to carry over many of the same systems and the cockpit layout is very similar. The next move I would consider would be moving up to a cabin class pressurized single or twin. If any of the manufacturers offer factory training, it would be a wise choice to attend. This is a plus with insurance companies (it also looks good on the resume). Earning a flight instructor certificate is a good way to build a good foundation. There is no better way to learn something (inside and out), than by teaching it. The local flight schools usually have single engine complex planes, as well as light twins, which an instructor can teach in. Your next step, after sharpening your skills, could be with a small charter operator or corporation with a cabin class and/or pressurized single or light twin.

I highly recommend (for you career minded pilots) to stay proficient on your instrument skills. You can do this in a single engine. The key is to stay sharp on procedures and your basic attitude instrument flying. You can be current and not proficient. Remember the FAR just dictate the minimum to be current. If an airline flying position is

your goal, one way to get on the inside with a low amount of flight time is through a flight attendant position. This is also a good way to adjust to the hours and life style of airline flying without the responsibility of a pilot position.

Let us take a look at two pilots and their career progression. One pilot's careers came to an abrupt stop, while the second went on to have logged tens of thousands of accident free hours. The pilot that logged the tens of thousands of hours climbed the ladder one step at a time, while the one who's career ended short, tried to skip a few steps here and there.

Our first pilot who's flying career ended early, started with an aircraft sales and service company. His duties consisted of office work and flying (a Cessna 172). The flying was taking pilots home after they have dropped their aircraft off for maintenance (he also picked them up when their plane was finished). However, he was eager to fly some heavy metal, now! For the most part, his flying was nine to five and VFR. An opportunity came for him to skip a few steps and start flying a *Baron* (single pilot) for a Part 135-charter company. He soon found himself flying in all weather at all hours of the day and night. It was late one night (or early one morning) when his flying career came to a crashing halt. It was shortly after departure from a relatively small airport. The airplane performance wasn't what he had expected. This caught him by surprise and due to his lack of experience (he had more plane and problems than he could handle), and he soon found himself in a field (exact circumstances unknown). There was no mechanical problems found with the aircraft. With only minor injuries, this shook him up enough that he gave up flying as a career. Be aware when climbing your career ladder, opportunities for quick advance may not always be worth going after.

XYZ Charter Company has a set progression for their charter pilots. The minimum for hire is 1,000 hours for a co-pilot on a *Baron*. After accumulating several hundred hours of second in command(SIC) time in the *Baron* and getting your ATP, you are then prepped for your PIC check ride. Your next step is to the right seat of the *King Air* and on to the left seat. And so on. You can see the logical progression.

Let us examine the steps that a retired airline captain took. This captain retired with 23,000 flight hours and eight type ratings. He started his airline career as a flight attendant. He soon progressed to the right seat of a DC-3 after earning his ratings and accumulating just over six hundred flight hours. A flight engineer position on a *Constellation* was his next step. Next he was in the left seat of a DC-3 as a captain and then in the right seat of a DC-4. Our captain's next three steps up the ladder were all captain positions, the DC-6, DC-7, and the Viscount in that order. Two Boeing aircraft were the next steps up the ladder again as captain positions in the 737 and he retired as a captain in the 727.

As you climb the aviation career ladder, put the ladder on a good foundation and touch every step on your way to the top. Flying is a very rewarding career, whether you choose corporate, airline, or flight instructing.

• "It's Simple Only For The Simple-Minded" Or "...There Is No Such Thing"–It Is Your Choice

Editor's Note: The following two letters represent two sides of the continuing argument about making a 180 degree turn back to the runway after an engine failure on takeoff.

Regarding Scott Gardiner's letter in the May/June 1999 issue of *FAA Aviation News* on the "180-degree return for landing." First, as George Edmonds, Jr., points out in his 1982 article in *Aero* magazine (reprinted in the 1987 *Airguide Manual)*, one has to turn much more than 180 degrees (almost 360, in fact--though different geometries are possible and he provides diagrams thereof) to effect a landing on the departure runway (opposite direction, of course). Second, such a return for landing is possible under some circumstances. Edmonds analyzes the question and gives the results of his own practical tests. In summary, I'd offer that it is simplistic and anti-intellectual to state sweepingly that such a maneuver cannot be performed and should never be attempted. For the neophyte and the incompetent, it's good advice: for the thinking and analytical pilot, I think not.

Imagine beginning a takeoff roll in a Cessna 152 on a 10,000-foot runway. You'll be airborne within 2,000 feet, and you could climb on runway heading for an entire mile and still be over the pavement: Given engine failure at that point, you could almost land straight ahead, and you could almost certainly return for a landing on the seven or eight thousand feet of runway behind you (the wind would determine the better option).

The septuagenarian CFI whom Gardiner quoted said, "It's simple" [don't try]. In truth, it's simple only for the simple-minded. I prefer study and analysis.

Newton W. Miller
Ph.D., CFI

FAA AVIATION NEWS welcomes comments. We may edit letters for style and/or length. If we have more than one letter on the same topic, we will select one representative letter to publish. Because of our publishing schedules, responses may not appear for several issues. We do not print anonymous letters, but we do withhold names or send personal replies upon request. Readers are reminded that questions dealing with immediate FAA operational issues should be referred to their local Flight Standards District Office or Air Traffic facility. Send letters to H. Dean Chamberlain, FORUM Editor, FAA AVIATION NEWS, AFS-805, 800 Independence Ave., SW, Washington, DC 20591, or FAX them to (202) 267-9463; e-mail address:

Dean.Chamberlain@faa.gov

180 TURN BACK

I read in the May/June issue of *FAA Aviation News* a reference to an article about a "Takeoff 180 degree return for landing." I must comment by saying there is no such thing as a 180 degree turn back to the runway. A 180 degree turn back is only a change in direction and will place you parallel to and off to one side of the runway. It does not get you back to the runway. To get back to the point of engine failure and lined up with the runway, it will require a 360 degree series of turns. If an instructor or pilot follows the procedures outlined in AC-61-67B, (Stall and Spin Awareness Training) Page 8, Paragraph C, the student or pilot will be seriously misinformed. Any attempt to use the information obtained from the AC demo could result in an attempt to get back to the runway from a very low altitude. It is almost guaranteed the last maneuvering turn will be low, slow, and a flat skidding turn, and it is likely to be the subject of the next day's headlines.

The AC should read, "Take the airplane to a safe altitude, reduce the power to idle, note the altitude and perform an 80 degree reversement of a 90 degree turn followed by a 270 degree turn in the opposite direction (or a 270 degree turn followed by a 90 degree turn in the opposite direction) and note the altitude loss. This is more realistic. Notice this produces a 180 degree change in direction while requiring 360 degrees of turning. This is necessary if you want to return to the point of engine failure and be lined up with the runway.

There may be situations where it can be done in less than 360 degrees if you are far enough out when you turn back or if there is a significant cross wind, etc.

The above comment is based on an engine failure just past the departure end of the runway and to help determine the minimum altitude required to safely get back to the runway.

Please let's stop this talk about a 180 degree turn back to the runway. As I have stated before, there is no such thing.

Dean Whisler
FAA Aviation Safety Inspector
Los Angeles FSDO

Both of these letters represent certain aviation truths. Like many things in life, aviation has its own "rules of thumb" to help simplify its many complex issues. The 180 degree turn back to the runway is one of those issues.

What caused these two letters was FAA Aviation Safety Inspector Scott Gardiner's earlier reference to an old, very experienced instructor's "rule of thumb" based upon about 32,000 hours of instruction when asked about what to do when the engine quits on takeoff. The old instructor said, "It's simple. If the engine quits shortly after takeoff in a single engine airplane, look 30 degrees left and 30 degrees right--you are not going to turn any more than that. Then, hit the softest and the cheapest thing in the area as slowly as possible."

That is still generally good advice if you are low and slow and taking off out of a short field surrounded by trees when you lose your single engine. The reason is most people will agree that it is always better to make an off-airport landing while under control rather than out of control. Gravity is seldom a friend of out of control pilots. The risk of trying to return to the runway under such condition can result in the classic stall-spin landing accident that still kills pilots every year. A stall-spin accident is a good example of an out of control situation that occurs all too frequently as pilots misjudge their final turn to landing approach and then try to save a bad landing rather than going around for another approach. Add in the natural pilot tendency of wanting to pull back on the stick or yoke to avoid the ground in a descending low and slow approach while trying to make that final turn--often an uncoordinated turn--and you have the potential of a stall-spin too close to the ground to recover.

On a personal note, the old instructor's advice might have saved the life of two pilots killed in a takeoff accident several years ago. One man was a retired military pilot and a very experienced flight instructor who was checking out another flight instructor at the time of the accident. Apparently, they had some type of problem right after takeoff and were trying to return back to the runway. The question will always remain, would they both have died if they had landed straight ahead rather than trying to return to the runway? The fact they were taking off over water may have influenced their decision to try and return to the runway rather than land the aircraft in the water. We will never know, but the fact remains, two flight instructors died in the resulting accident.

Dr. Miller's comments are also valid, especially the one about "I prefer study and analysis." But how many pilots sitting at the end of the runway preparing to takeoff under FAR Part 91 rules have made a plan for how they will handle an engine failure right after takeoff? Better yet, how many of those pilots have calculated the minimum altitude they would need under the current takeoff conditions, aircraft weight, current density altitude conditions, wind speed and direction, and runway surface conditions needed to safely return to the runway after an engine failure right after lift off? And as both letters pointed out, it takes more than a 180 degree turn to return to the departure end of the runway. (It helps if you can turn into the wind--it reduces wind drift away from the runway.)

If the pilot has not done his or her homework before the engine goes silent or does not have a mile of runway still under the aircraft as outlined in Dr. Miller's letter or is not near pattern altitude, then maybe it is time to remember the old rule of thumb.

So to summarize both letters, it is important to know both your own piloting limitations, as well as your aircraft's and to have a plan before you need it. Maybe your best option is to plan on landing straight ahead with only a minor heading change to miss that lone tree sitting at the end of the runway. The key to increasing your odds of survival is to always land under positive flight control. The life you save might be your own.

• Photo ID

Can you help me identify the airplane (Make and Model) that is on Page 6 of the April 1999 issue of *FAA Aviation News*? The registration number appears to be foreign.

Jim R. Hein
Honolulu, HI

According to the photograph's caption, "With the pre-production prototype D-EGTA undergoing certification trials, Grob are set to begin production of their G115TA advanced military trainer. The first 12 are scheduled for delivery to the United Arab Emirates Air Force who have an option for a further 12."

NASA OPENS NEW VIRTUAL AIRPORT CONTROL TOWER AT AMES

Panoramic View of NASA's Future Flight Central Tower Cab. (NASA photo)

"NASA FutureFlight Central," the world's first full-scale virtual airport-control tower, was dedicated December 13 at National Aeronautics and Space Administration's Ames Research Center, Moffett Field, CA.

Constructed at a cost of $10 million, the two-story NASA FutureFlight Central facility was jointly funded by NASA and the Federal Aviation Administration (FAA). The facility is designed to test--under realistic airport conditions and configurations--ways to solve potential air and ground traffic problems at commercial airports.

"NASA FutureFlight Central is a world-class research facility dedicated to addressing the future needs of the nation's airports," said Ames Center Director Henry McDonald. "This facility will allow NASA, the FAA, and their research partners to examine ways to increase the flow of aircraft through the national airspace system safely, efficiently, and under all weather conditions."

NASA FutureFlight Central will permit integration of tomorrow's technologies in a risk-free simulation of any airport, airfield, and tower-cab environment. The facility provides an opportunity for airlines and airports to mitigate passenger delays by fine-tuning airport hub operations, gate management, ramp-movement procedures, and various other airport improvements. Finally, it enables air traffic controllers to provide input and become familiar with new airport operations and technologies before construction is completed.

Real people interact in the live-action simulation just as in a real airport. Up to 12 air traffic controllers in the tower cab are in direct communication through a simulated radio and phone system with pilots and ramp controllers at stations on the first floor.

"We can simulate any airport in the world," said Nancy Dorighi, NASA FutureFlight Central facility manager. "The three-dimensional visual model of an airport is viewed out the 360-degree windows of the tower cab. The visual scene, along with specific airport traffic patterns, fleet mix and procedures, makes this a very credible oper-

ational test-bed."

It is anticipated that airport and airline management and researchers will want to look primarily at the feasibility, safety, and reliability and cost benefits of technologies prior to incorporating them into airports. In addition, testing will provide information that may assist in developing proposed changes to airport ground procedures and the construction of new airport facilities. "This is a totally new approach to tower--or airport--traffic planning that wasn't possible just a few years ago," said Dorighi.

Twelve rear-projection video screens provide a seamless 360-degree high-resolution view of the airport or other scenes being depicted. The imaging system, powered by supercomputers, provides a realistic view of weather conditions, environmental and seasonal effects, and the movement of up to 200 active aircraft and ground vehicles.

Note: Photos are reprinted with permission from NASA's FutureFlight Central: photo library found at <http://ffc.arc.nasa.gov/ffc/photo_library/photo_lib.html>

NASA's Future Flight Central Audio/Visual Control Center (NASA photo)

STANDARDIZED TAXI ROUTES

Standardized taxi routes (STR)--have you heard of them? If not, you may hear them being used at selected airports. They are being developed at major airports to expedite ground control operations. Designed for air carrier operations, STR will allow authorized pilots to preplan their taxi routes to and from their gates for takeoffs and landings. STR can be developed for departures, arrivals, or both.

FAA Order 7110.116 dated October 1, 1999, outlines the procedures for the development of STR. The new order does not supersede currently approved STR. The Order notes that controllers and pilots will not be mandated to use STR. The Order also lists when STR will not be used, such as during low visibility operations. In low visibility operations Surface Movement Guidance and Control System (SMGCS) procedures will be used if appropriate. When needed for safety or when appropriate, standard taxi procedures will be used.

As outlined in the Order, STR are expected to reduce frequency congestion by reducing the amount of transmissions needed between air traffic and approved operators. Operators approved for STR operations will have letters of agreement signed between air traffic and the operator outlining the approved STR, their routing information, appropriate airport diagrams, movement area boundaries, any unique airport characteristics and/or procedures, and a legend depicting appropriate terminology and symbology used with the procedure.

It is important to note that STR are not to be used by anyone without a letter of agreement authorizing the use of the STR by that operator.

2ND ANNUAL JOINT BIRD STRIKE COMMITTEE MEETING

The second annual joint meeting of the Bird Strike Committee USA and Bird Strike Committee Canada is scheduled for August 8-10, 2000, at the Minneapolis-St. Paul International Airport, Minnesota.

According to the organizing committee, military and civilian personnel for airfield operations, wildlife managers, land-use planners, FAA airport inspectors, university researchers, engineers, pilots, aviation industry representatives, waste management operators, and anyone else interested in reducing wildlife strike hazards to aircraft should attend.

Registration is $90 by June 16 and $100 after June 16. Special hotel rates have been arranged to support the meeting for those registered by June 16 at the Holiday Inn Select (612-854-9000). Attendees must mention BSC-USA for the special rates of $89 for government employees and $109 per night for other attendees.

For more details, you may contact Betsy Marshall, USDA, 6100 Columbus Ave., Sandusky, OH 44870. Her telephone number is 419-625-0242. Her fax number is 419-625-0242. Her email address is betsy.j.marshall @usda.gov.

You may also sign on to the following website for more information: www.birdstrike.org.

Editor's Runway

from the pen of Phyllis-Anne Duncan

SPRING HAS SPRUNG, AND AN AIRMAN S FANCY TURNS TO ?

Before delivering the annual spring proficiency lecture, the Aviation News Staff would like to thank all the readers of *FAA Aviation News* for their patience and understanding during the recent printing problems. Almost unanimously the calls, e-mails, and snail-mails concerning missing issues were forceful ("The last issue I got was September 1999, and it's now December."), but accommodating ("This is a good publication, and I want to keep getting it."). The reasons for the problems, we went into last issue, so now that we're back on schedule, we wanted to say, "Thank you"—for sticking with us, for reminding us that we do perform a service that is appreciated. Thank you for your calls and letters to "the powers that be" on the magazine's behalf, which we believe had a significant impact on the eventual albeit belated decision to provide funds to print all the 1999 issues as well as those for 2000. A mere "Thank you" doesn't seem enough to say to all of you, especially since you were the ones inconvenienced, but it is stated from each of us on the staff with sincerity and humility.

All right, here comes the pitch for enhancing your pilot skills now that spring is here. (Actually, I'm writing this at the end of January after we've just had 14 inches of snow with six more due to arrive in about 12 hours. I'm using the images of spring to add to the nice logs burning in the fireplace in an attempt to ward off the below-freezing temps. And no, my office does not have a fireplace—I wish. Even a Fed occasionally works at home.) If I had the time this spring, not to mention the funds, I'd go for my multi-engine sea rating. You know, to round out ASEL, ASES, AMEL, AMES.

What will it be for you? Multi-engine airplane? Rotorcraft-Helicopter? Glider? Instructor?

I'll put my plug in for the instrument rating for all those who lack that particular addition. Cheapest insurance you can buy, and it also begins the process of fine-tuning your piloting skills and provides you with the tools to deal with situations you don't want to find yourself in without the rating. A private pilot can now begin instrument training right after completing the requirements for the private pilot certificate—no more minimum hours. To me, it's—as my teenaged relatives say—a no-brainer. Unless, of course, you really are looking forward to entering IMC inadvertently and trying to fly out of them by the seat of your pants.

Now, to my second springtime rant: the debate over which is better, currency or proficiency. Remember, the FAA is only interested on a day-to-day basis with your currency as required by the regulations. The level of your proficiency only becomes a concern to us, again from a regulatory standpoint since your proficiency is always important to us, when an incident or accident occurs. Particularly if you have put flying on hold during the winter, going out on the next nice weekend and plunking down on the runway three times does not mean you're proficient. Go up with an instructor instead—hey, they need the money. Seriously, who better than an independent party to spot something that needs a minor adjustment? You can maintain your currency by staying proficient, the classic win-win scenario. So, add a rating. Get checked in a different make and model aircraft, one you've been wanting to move up to, or get a tail-dragger endorsement and have some fun while you're at it.

Better yet, earn a phase of the WINGS program, and there's a new way to qualify for your WINGS—by e-mail. You still have to go out and take the three hours of instruction, but you can qualify as attending the required seminar by signing up for the WINGS by E-Mail program. Four separate topics are e-mailed to you, and at the end of each is a quiz. You can review the material and complete the quiz when it is convenient for you then click on reply and send it back to us. If you score at least 80% on each of the four quizzes, you get credit for a seminar. (A return e-mail is sent to you to verify this so that you can prove your "attendance" when you apply at your local FSDO.) A virtual safety seminar. Again, as my teenagers say, "Kewl." For further information on WINGS by E-Mail, e-mail <david.hunter@faa.gov> or visit <http://wings.e-dialog.com>.

As we all move more and more into aviation cyberspace, let's not, however, lose sight of the real world of flying—pilots and mechanics and good aircraft, all operating with a synchronicity that is sometimes so intrinsic that it rivals any systems in nature. The difference from nature is that we humans have the ability to think for ourselves and introduce variables—good decisions and bad ones—into the system.

But isn't that proficiency—currency with sufficient practice that assures the good decisions come easily and swiftly? Good decision-making means a safe flight. Safe flights mean a continued decrease in the already low general aviation accident rate. A continued decrease in the accident rate means more communities and businesses will realize what general aviation contributes to the community, its businesses, and its economy. And general aviation grows and becomes an even greater national benefit, local governments will cease trying to close general aviation airports, and we leave a legacy to the future. Sounds simplistic? As with nature, sometimes the simplest approach works.

So, go out and do your part. Make proficiency your rite of spring.

'Til next time…

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